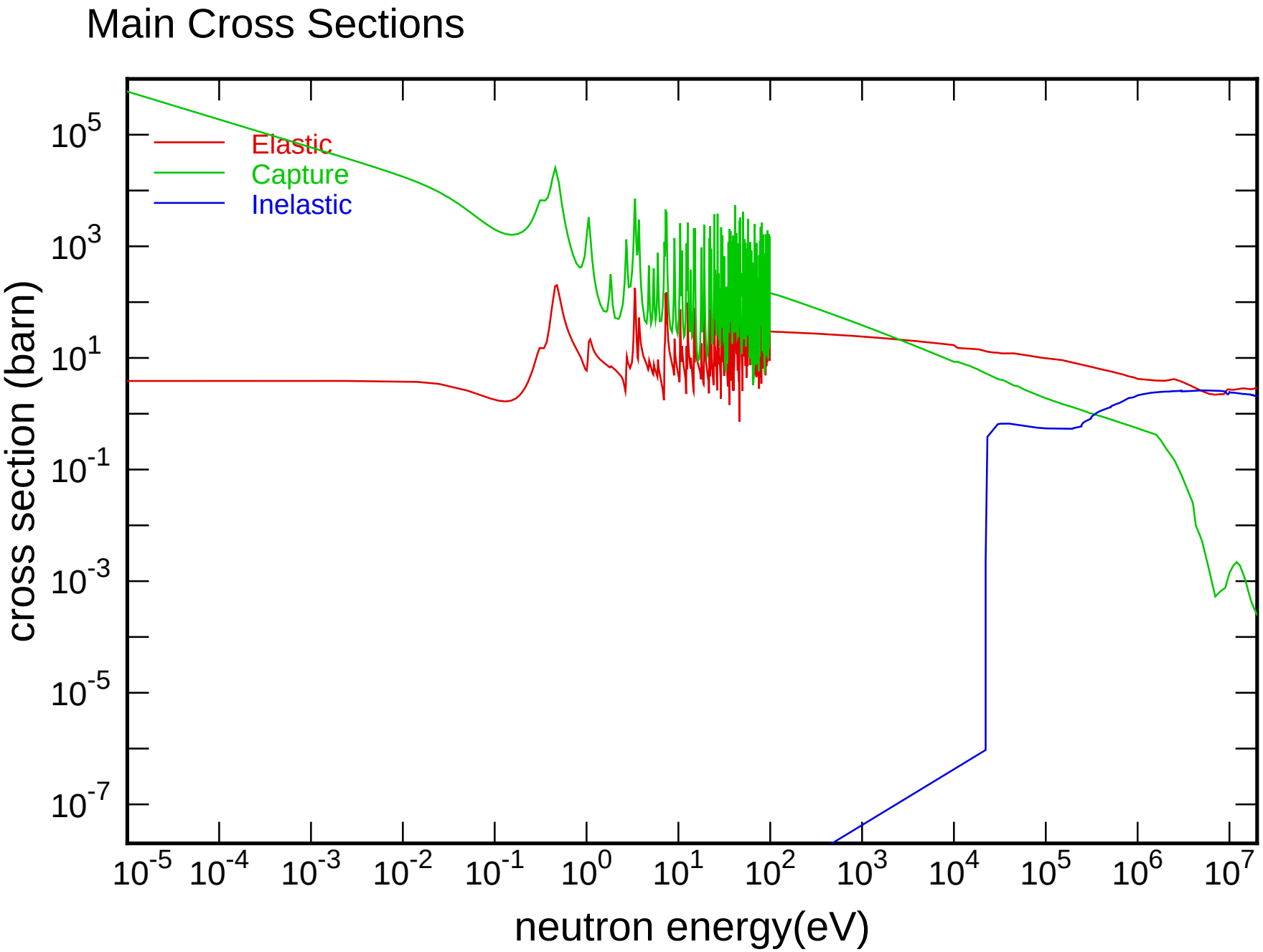
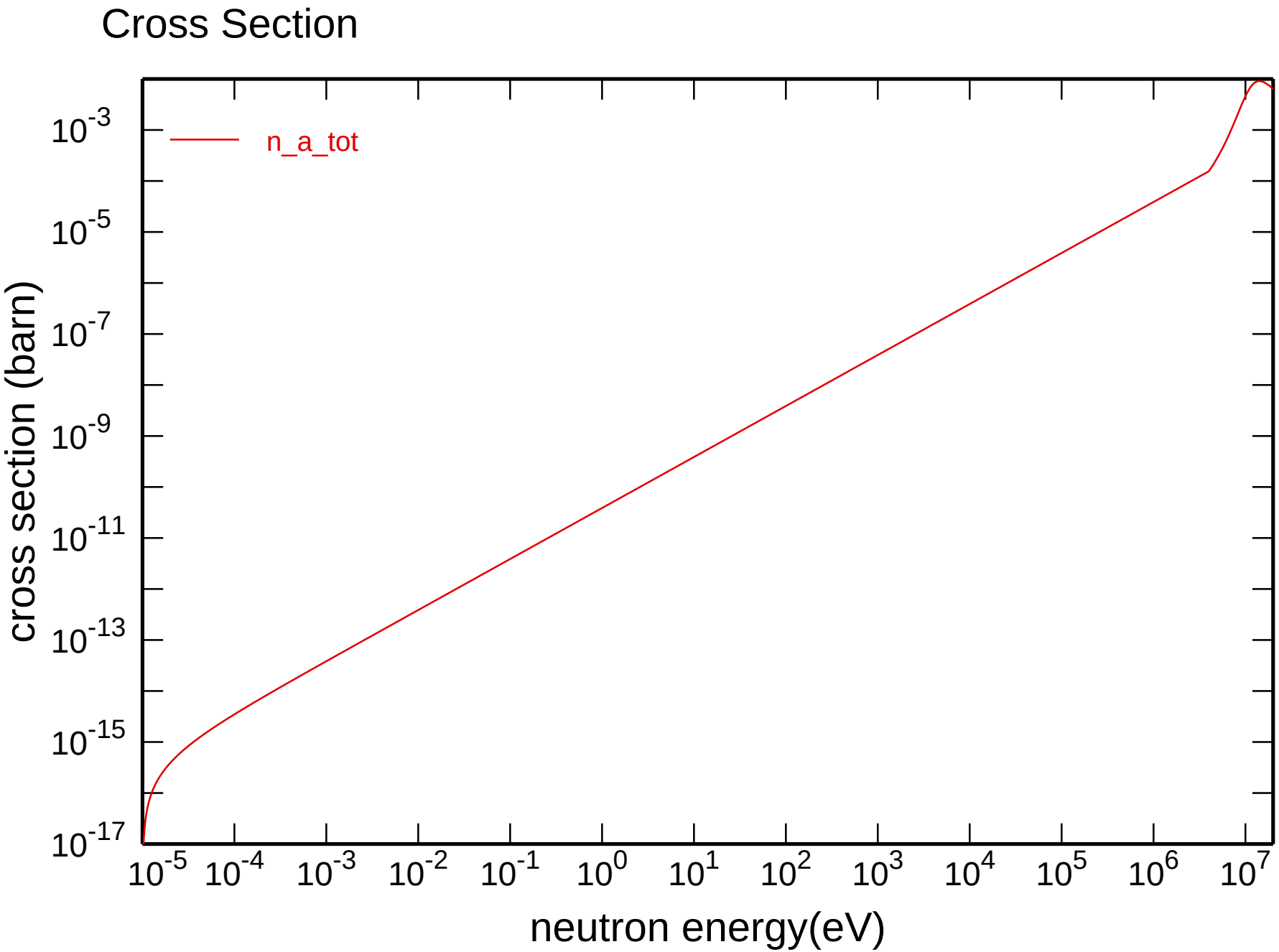
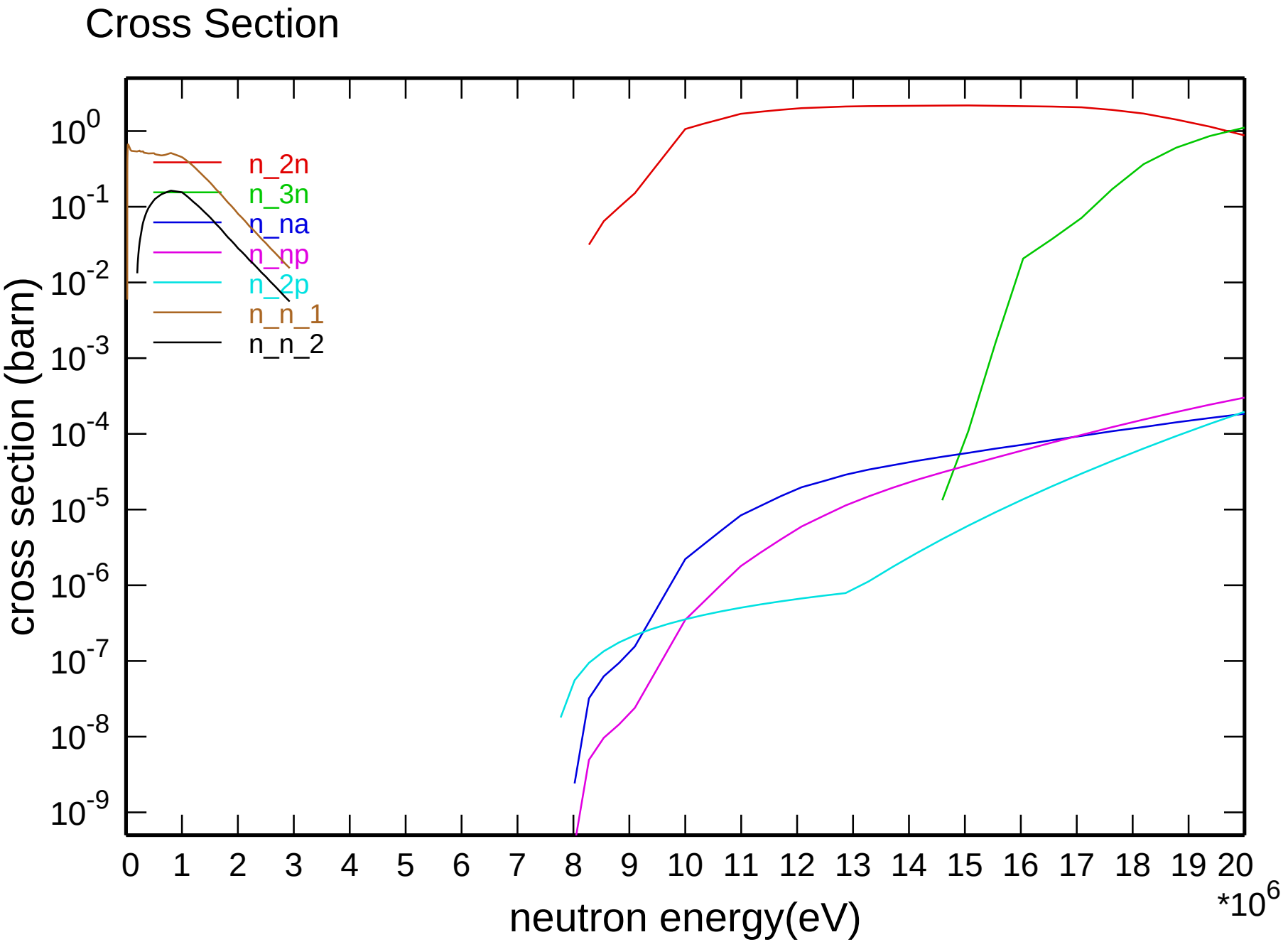
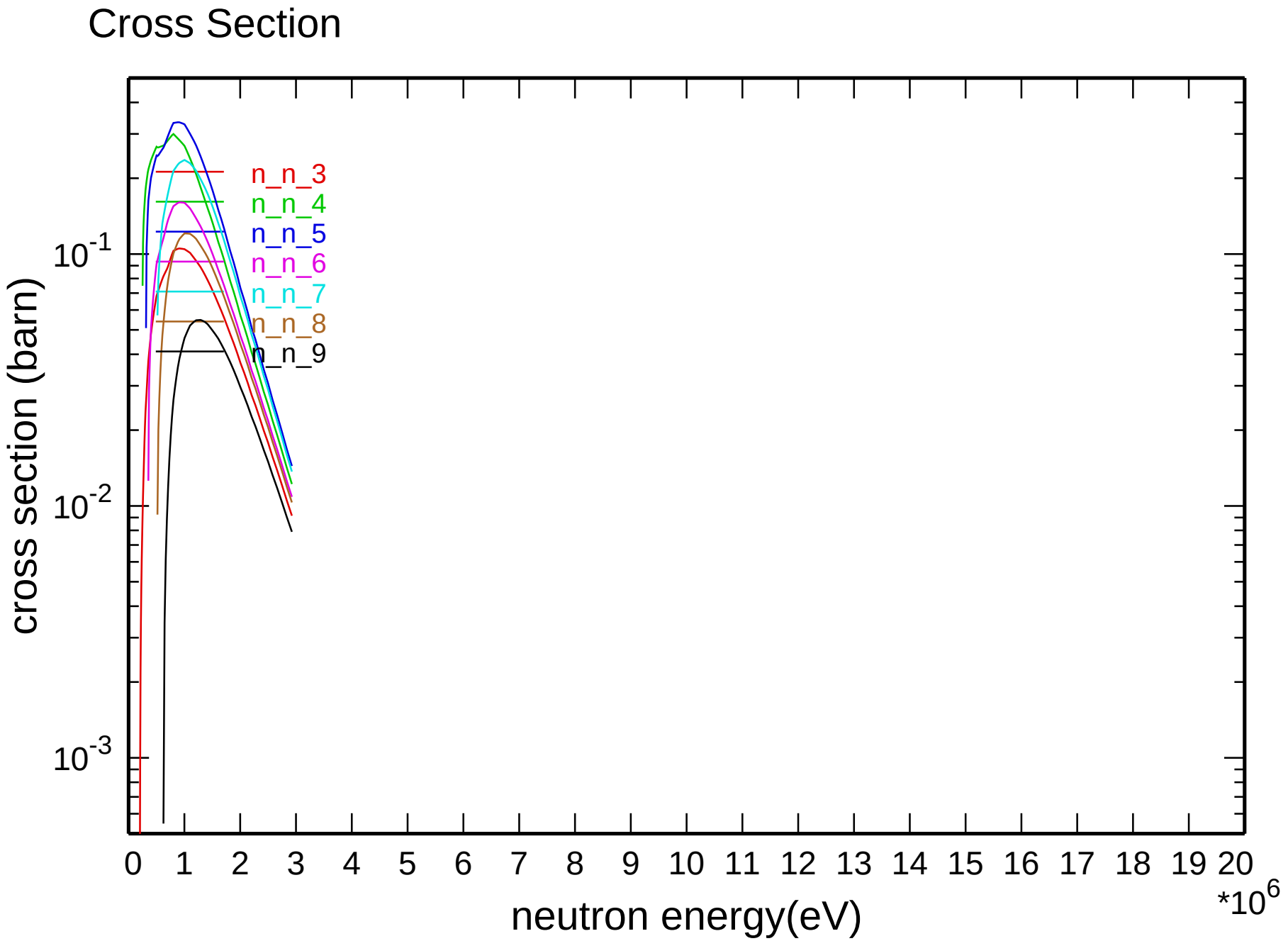
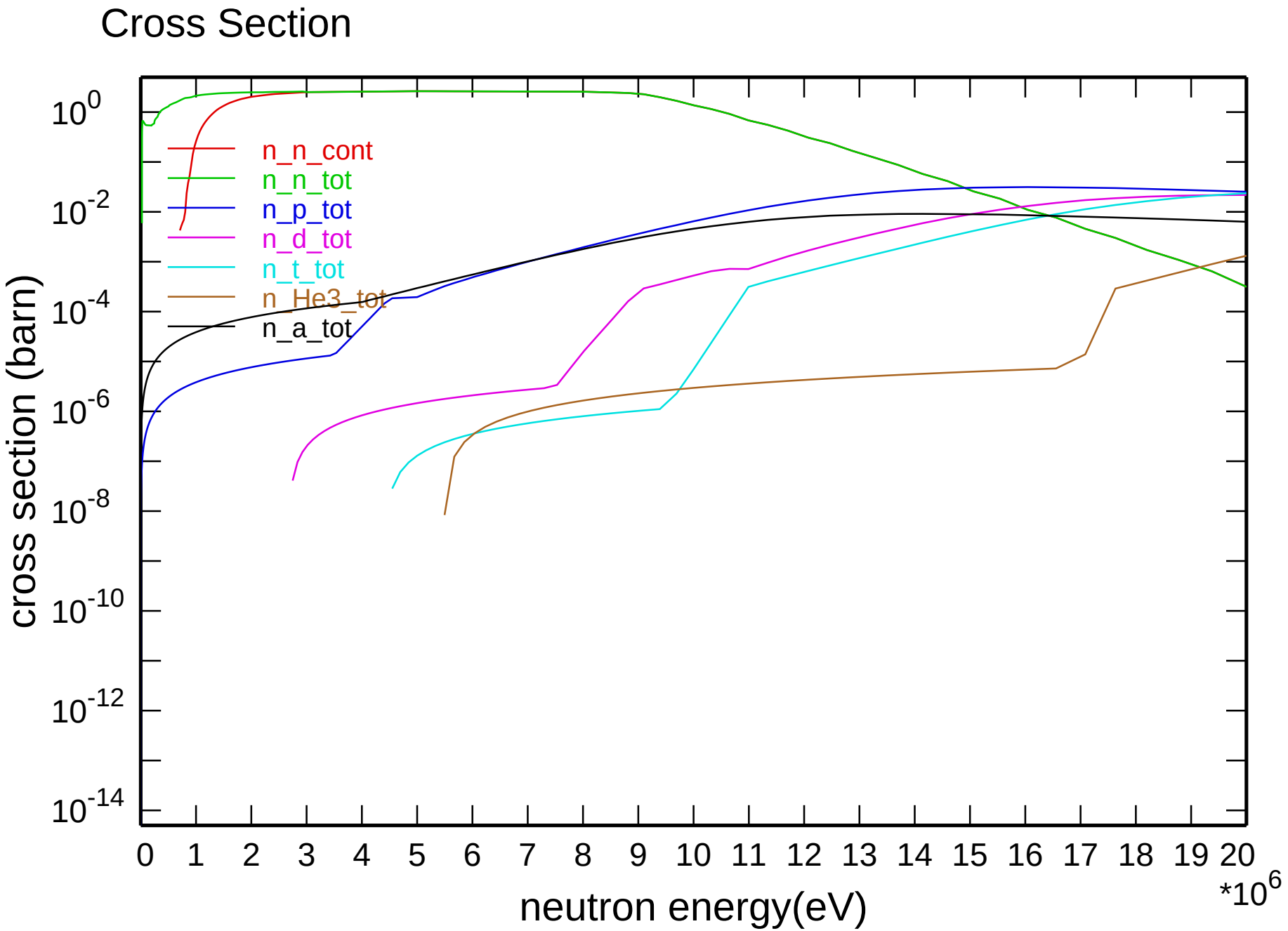
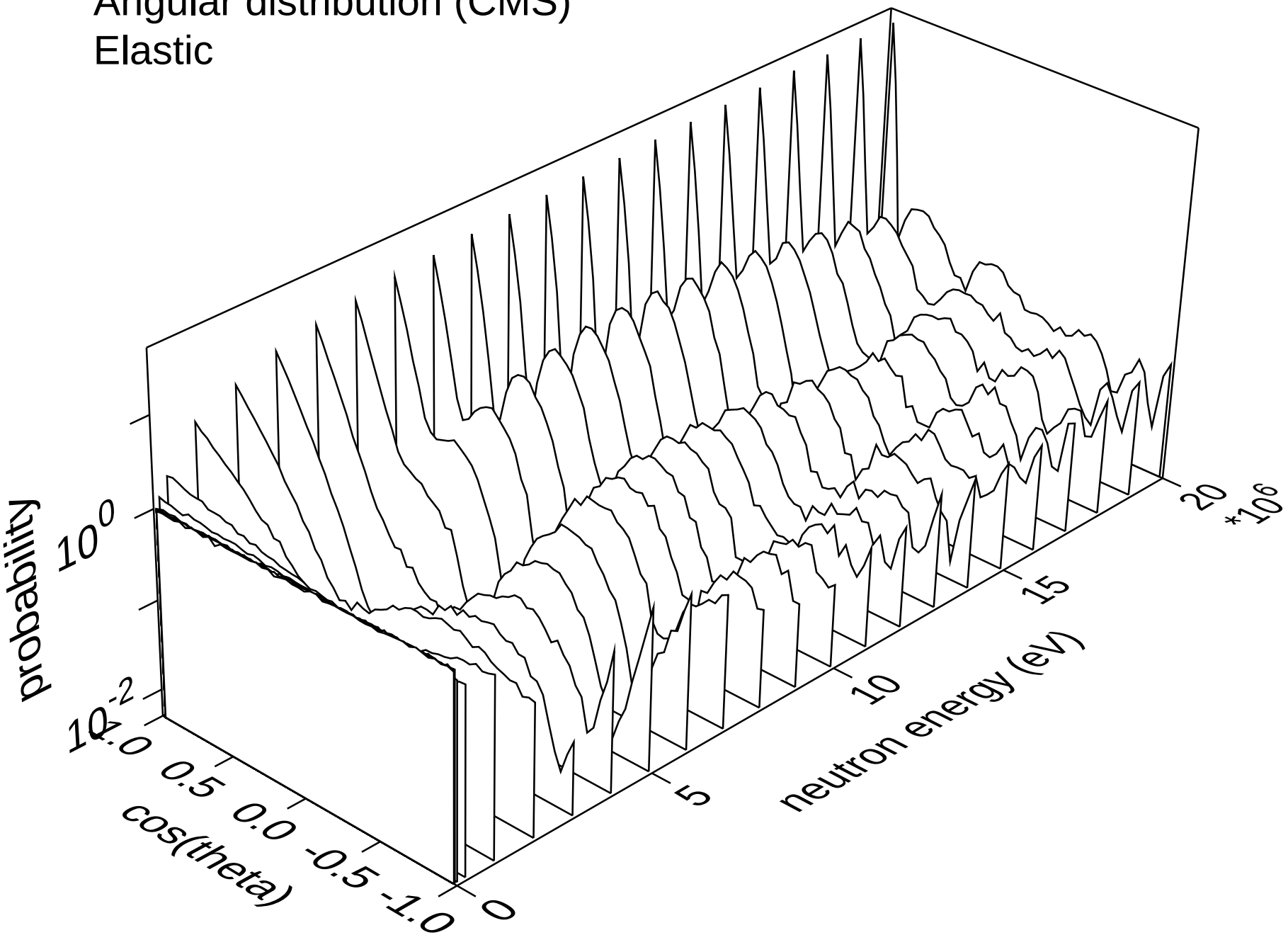

Main Cross Sections
Elastic
Capture
Inelastic
cross section (barn)
10^{5}
10^{3}
10^{1}
10^{-1}
10^{-3}
10^{-5}
10^{-7}
10^{-5} 10^{-4} 10^{-3} 10^{-2} 10^{-1} 10^{0} 10^{1} 10^{2} 10^{3} 10^{4} 10^{5} 10^{6} 10^{7}
neutron energy(eV)

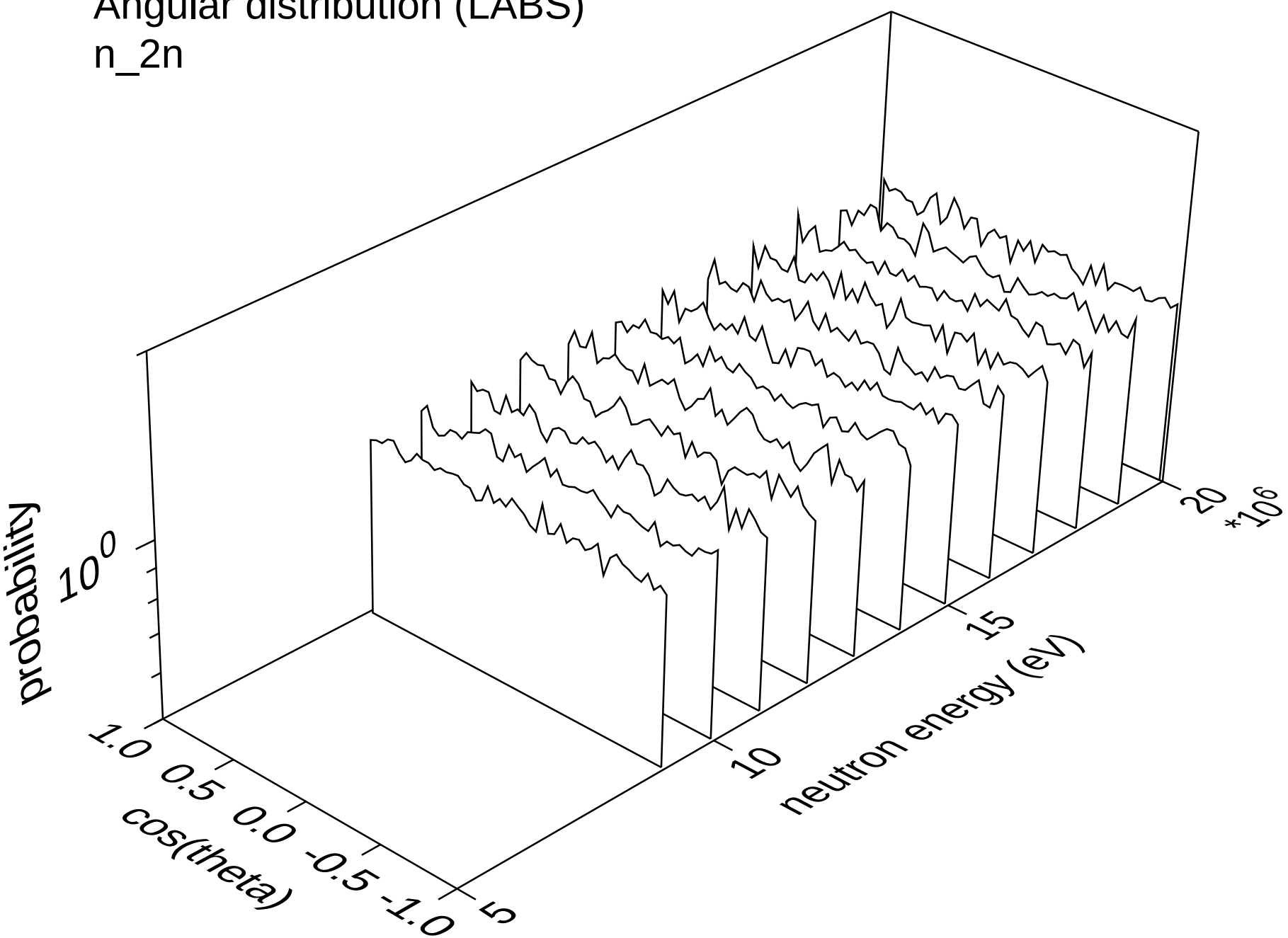

Cross Section
n_a_tot
cross section (barn)
10-3
10-5
10-7
10-9
10-11
10-13
10-15
10-17
10-5 10-4 10-3 10-2 10-1 100 101 102 103 104 105 106 107
neutron energy(eV)

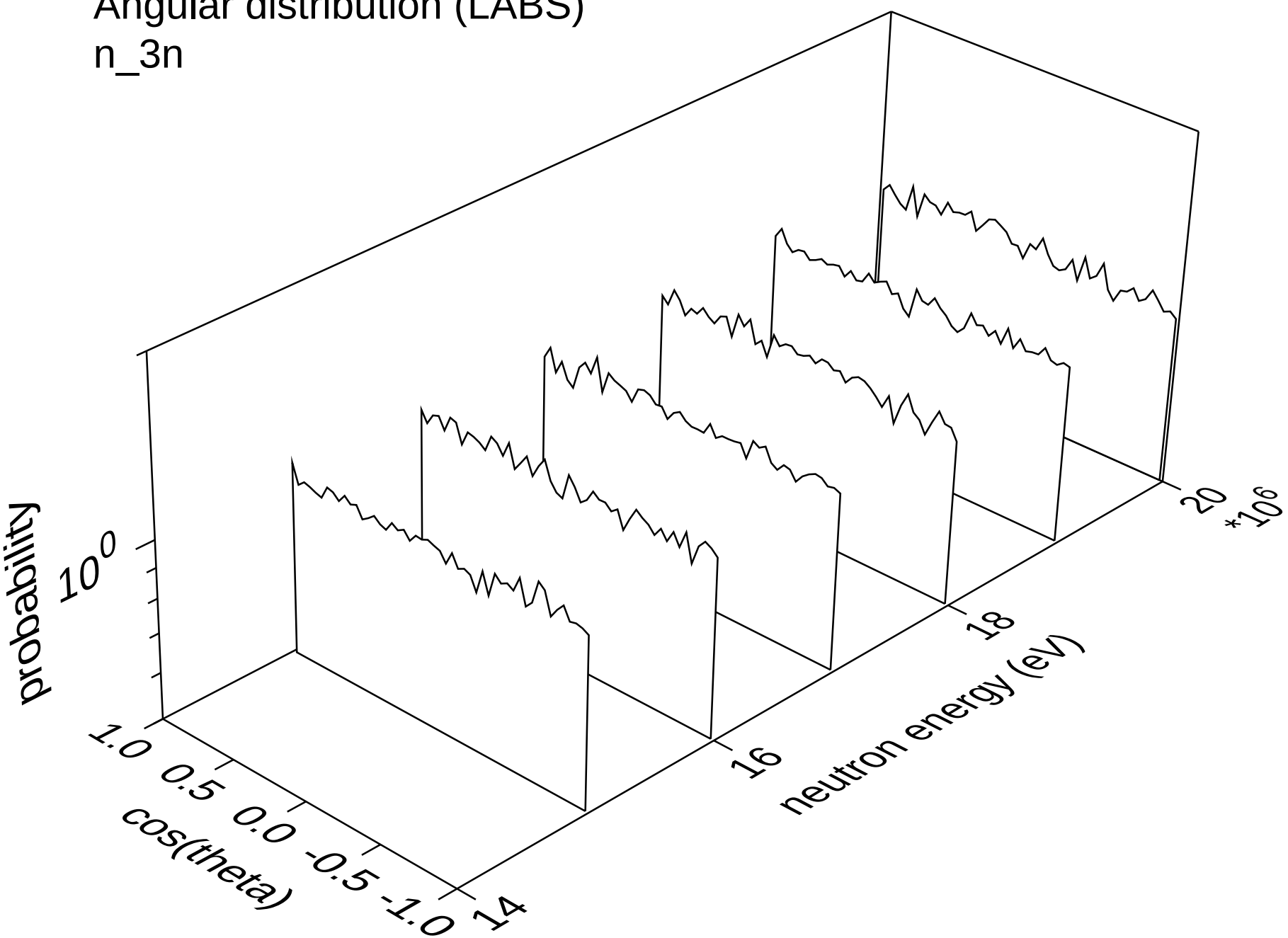

Cross Section
cross section (barn)
neutron energy(eV)
*10^6
n_2n
n_3n
n_na
n_np
n_2p
n_n_1
n_n_2
10^0
10^-1
10^-2
10^-3
10^-4
10^-5
10^-6
10^-7
10^-8
10^-9
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

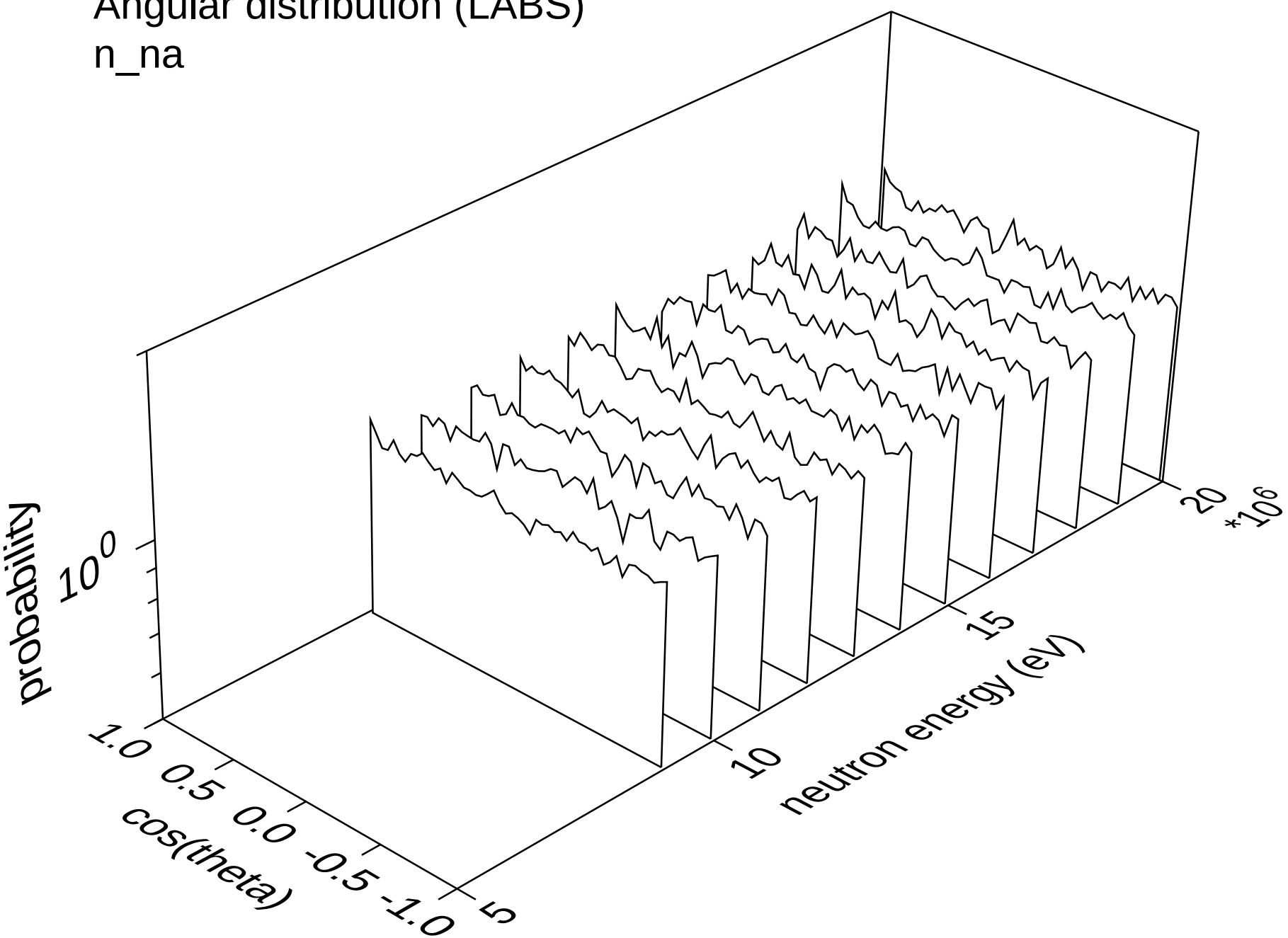

Cross Section
n_n_3
n_n_4
n_n_5
n_n_6
n_n_7
n_n_8
n_n_9
cross section (barn)
10-1
10-2
10-3
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
*10^6
neutron energy(eV)

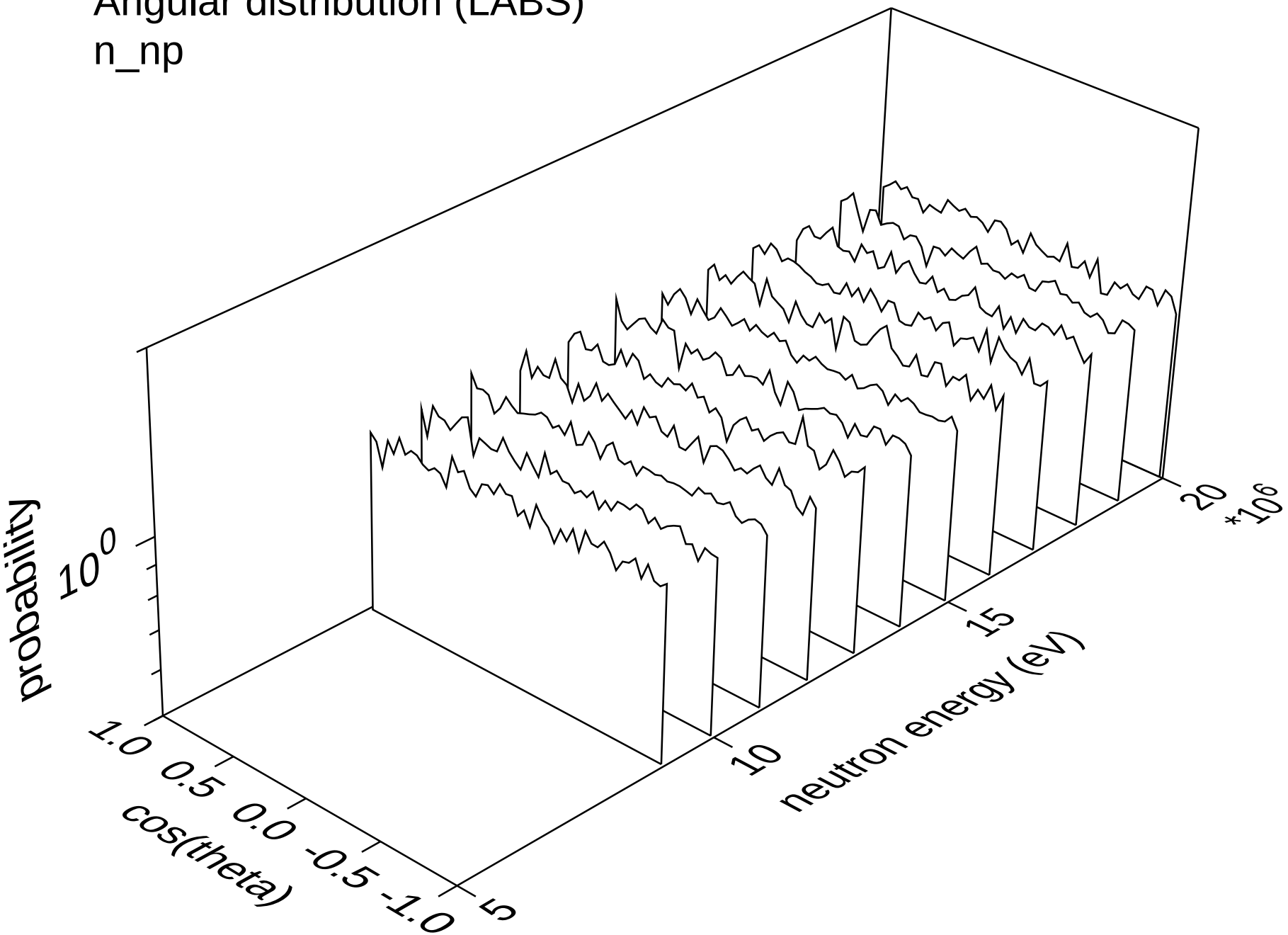

Cross Section
cross section (barn)
neutron energy(eV)
*10^6
n_n_cont
n_n_tot
n_p_tot
n_d_tot
n_t_tot
n_He3_tot
n_a_tot
10^0
10^-2
10^-4
10^-6
10^-8
10^-10
10^-12
10^-14
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

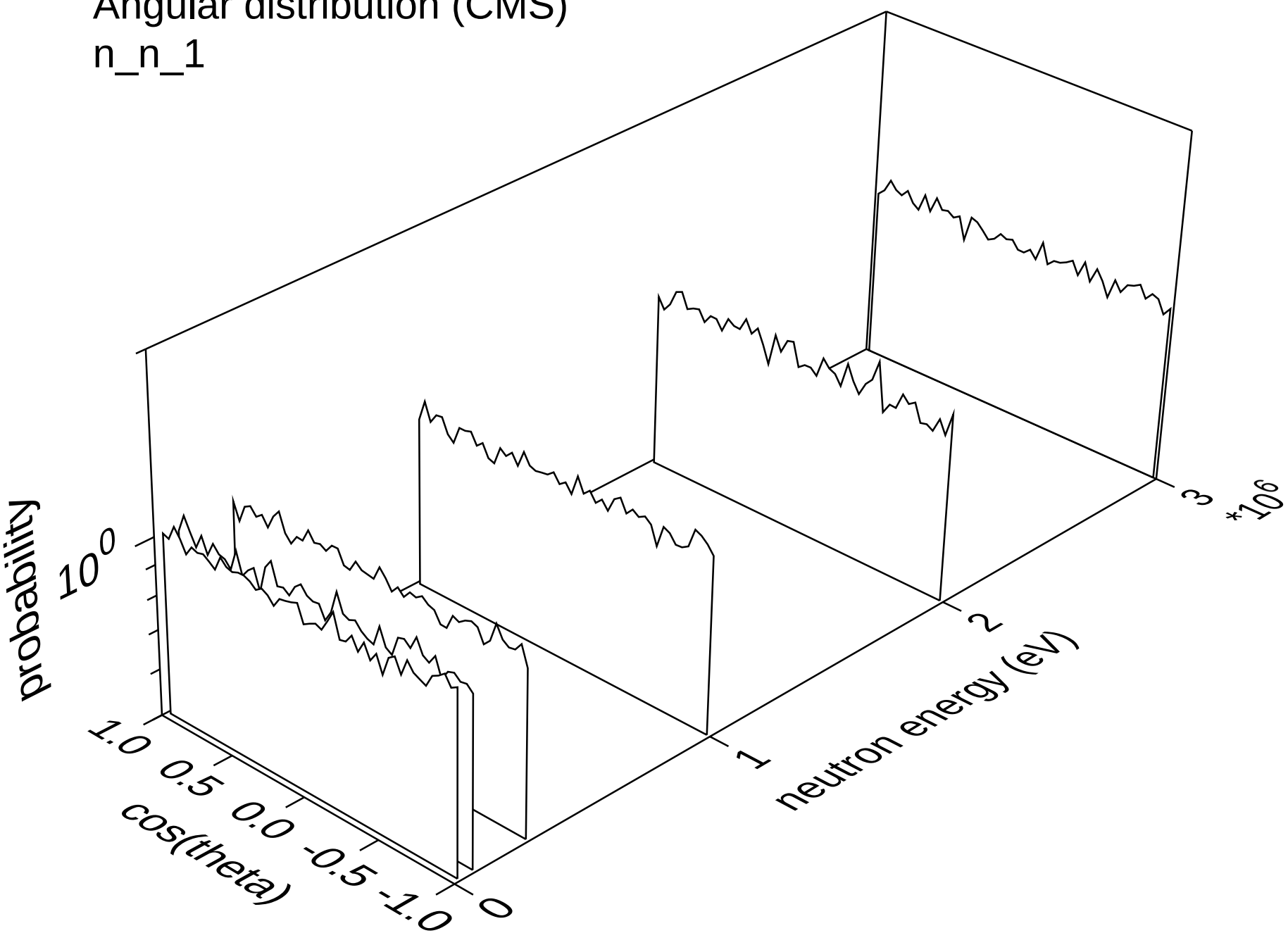

Angular distribution (CMS)
Elastic
probability
10^0
10^{-2}
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
5
10
15
20
*10^6
neutron energy (eV)

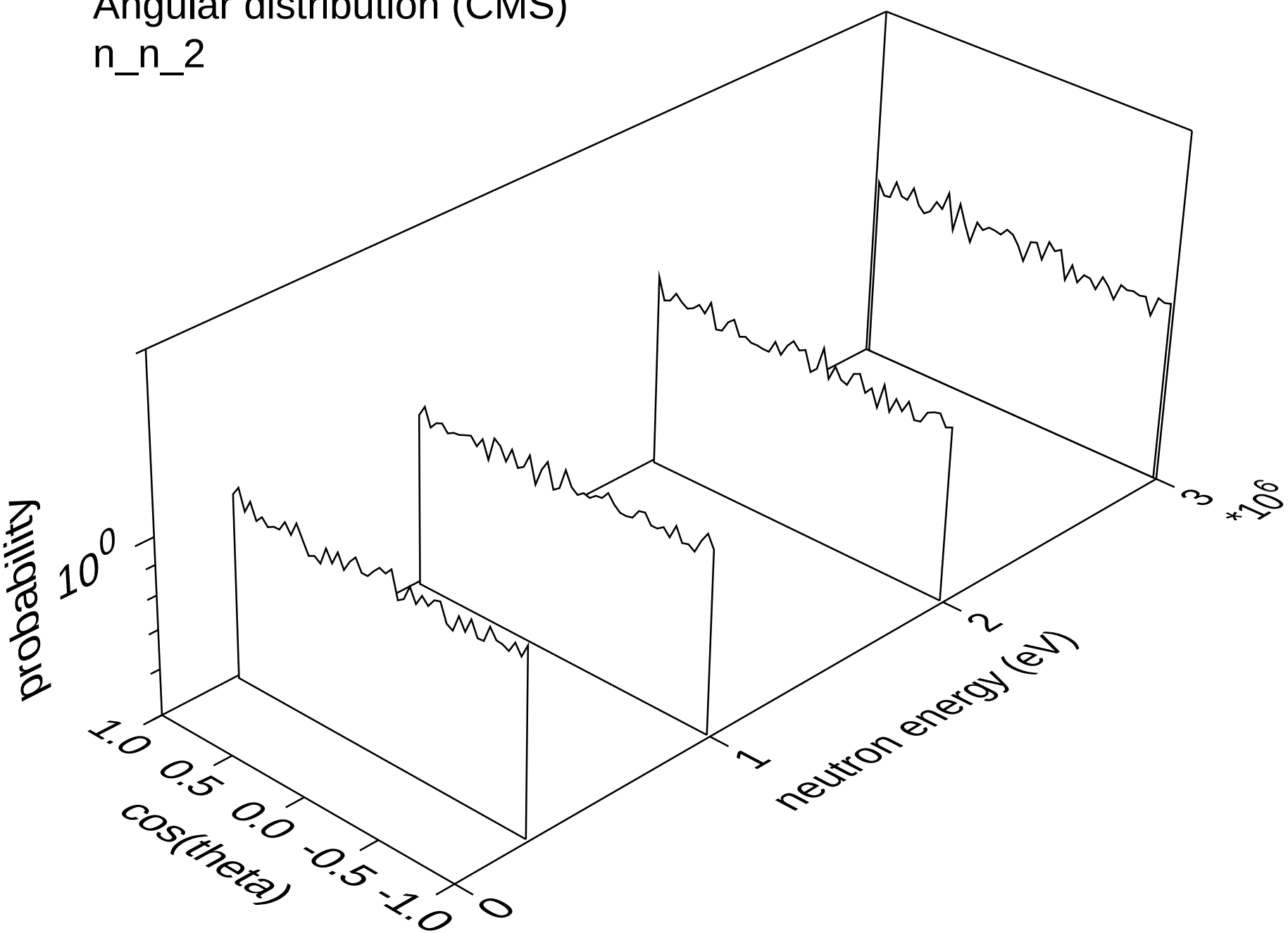

Angular distribution (LABS)
n_2n
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
5
10
15
20
*10^6
neutron energy (eV)

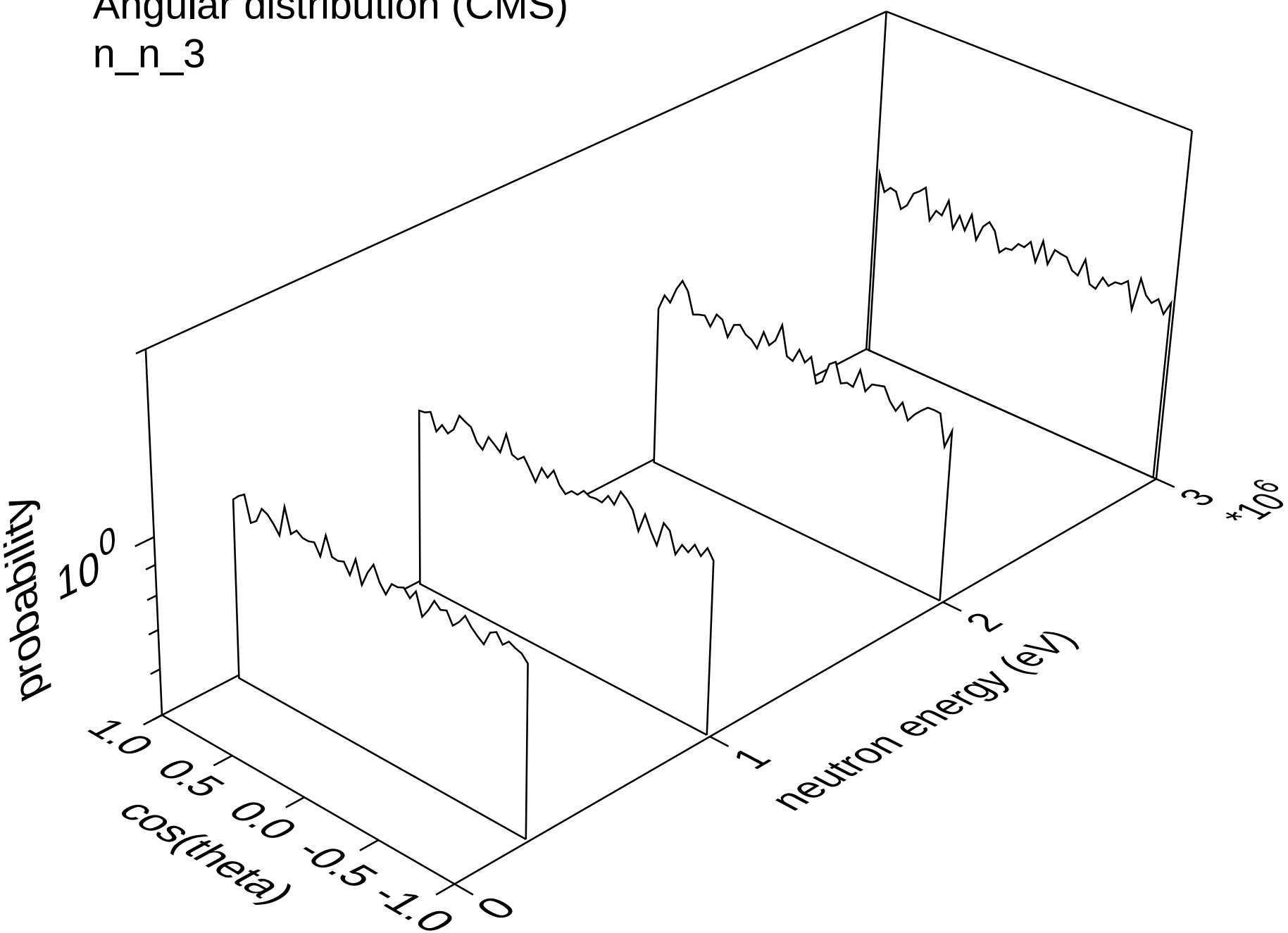

Angular distribution (LABS)
n_3n
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
14
16
18
20
*10^6
neutron energy (eV)

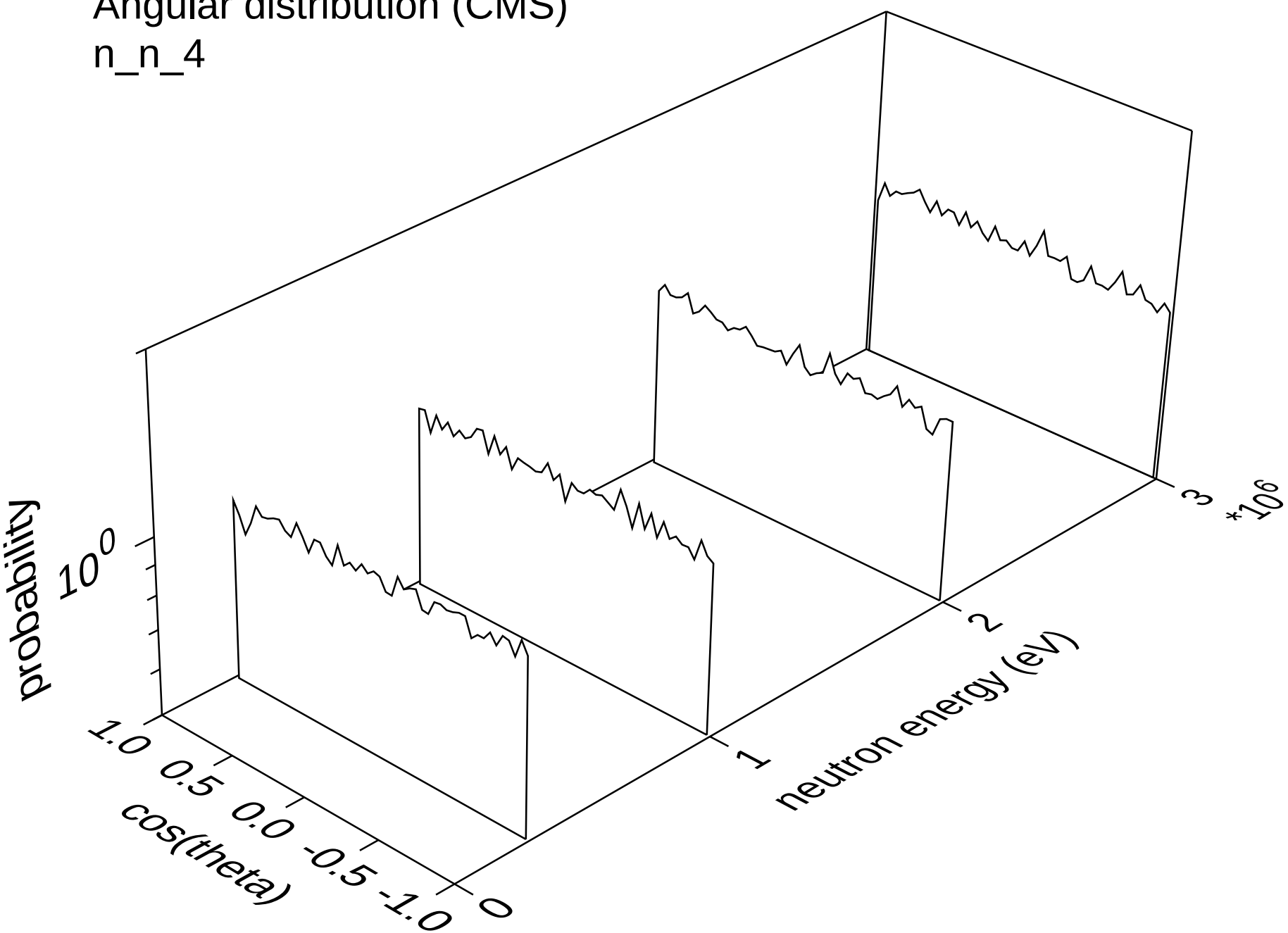

Angular distribution (LABS)
n_na
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
5
10
15
20
*10^6
neutron energy (eV)

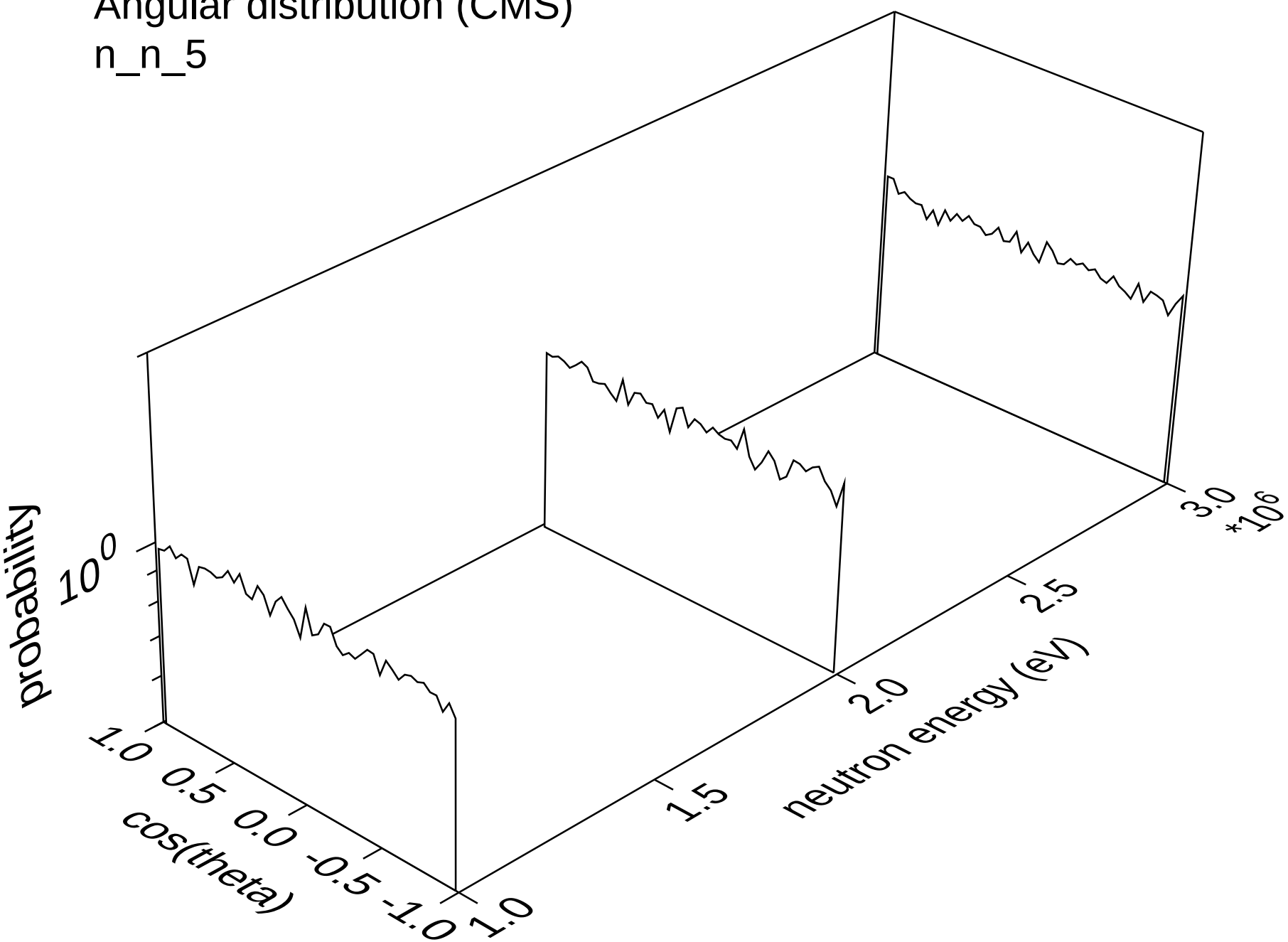

Angular distribution (LABS)
n_np
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
5
10
15
20
*10^6
neutron energy (eV)

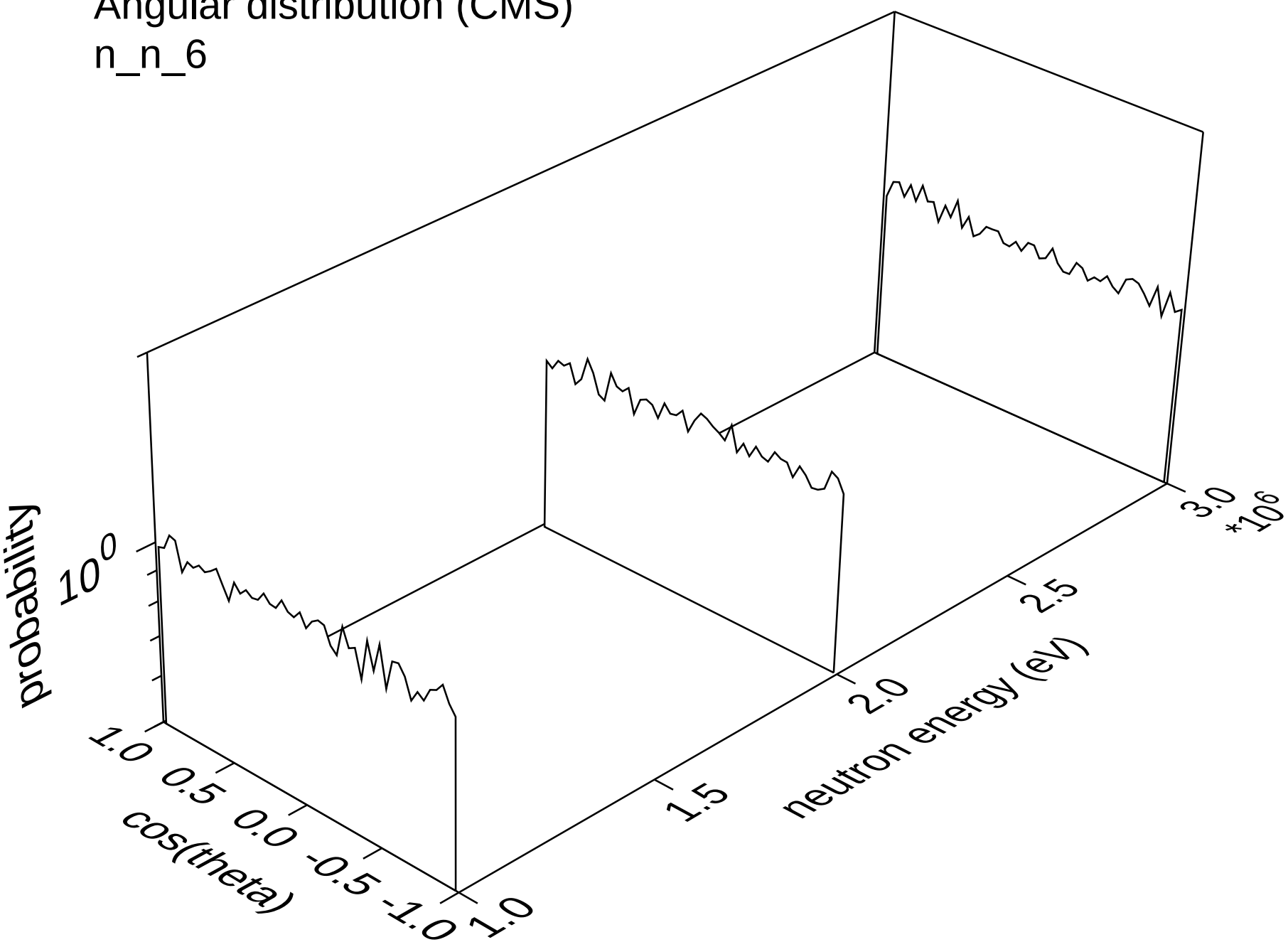

Angular distribution (CMS)
n_n_1
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

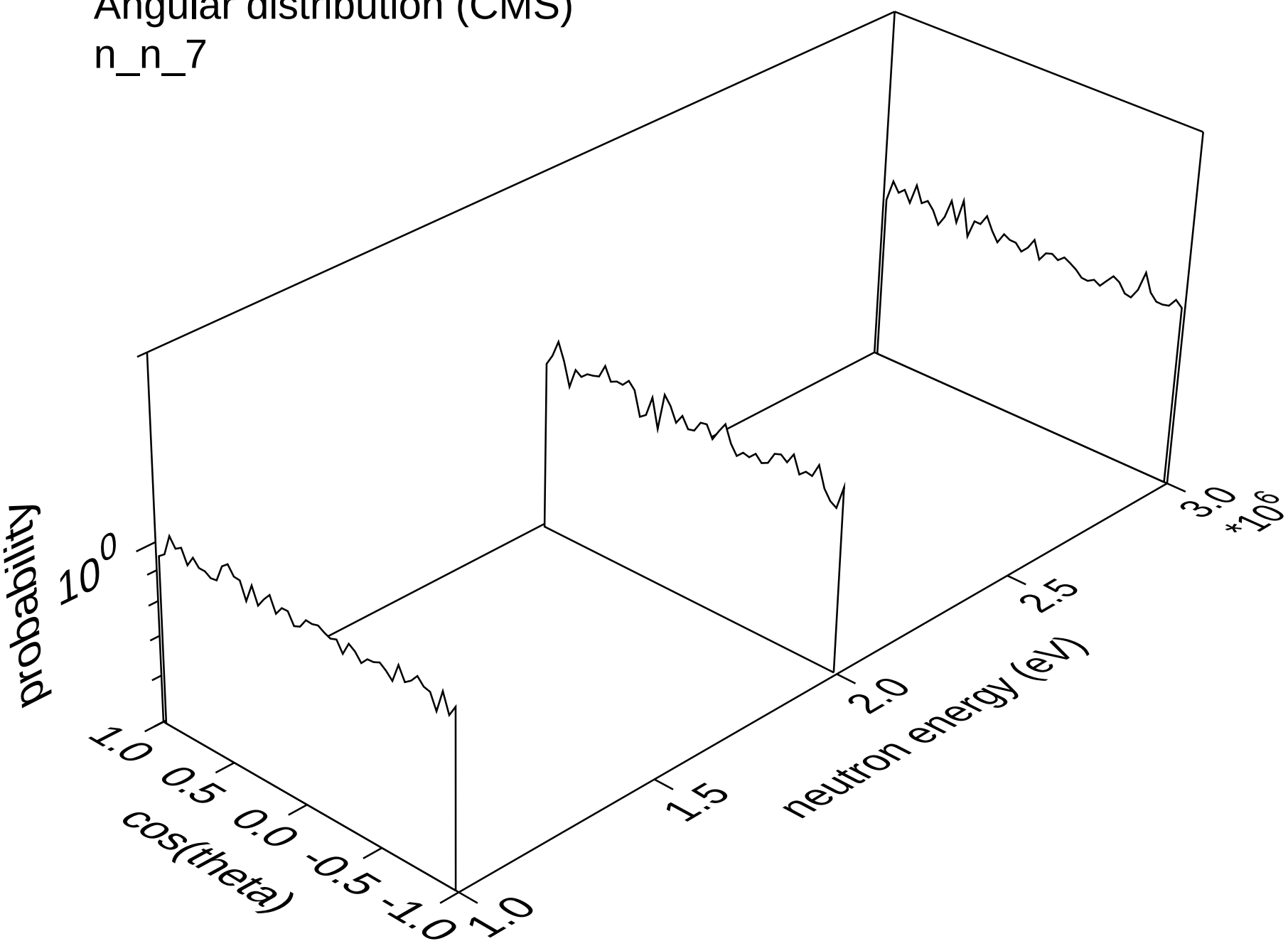

Angular distribution (CMS)
n_n_2
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

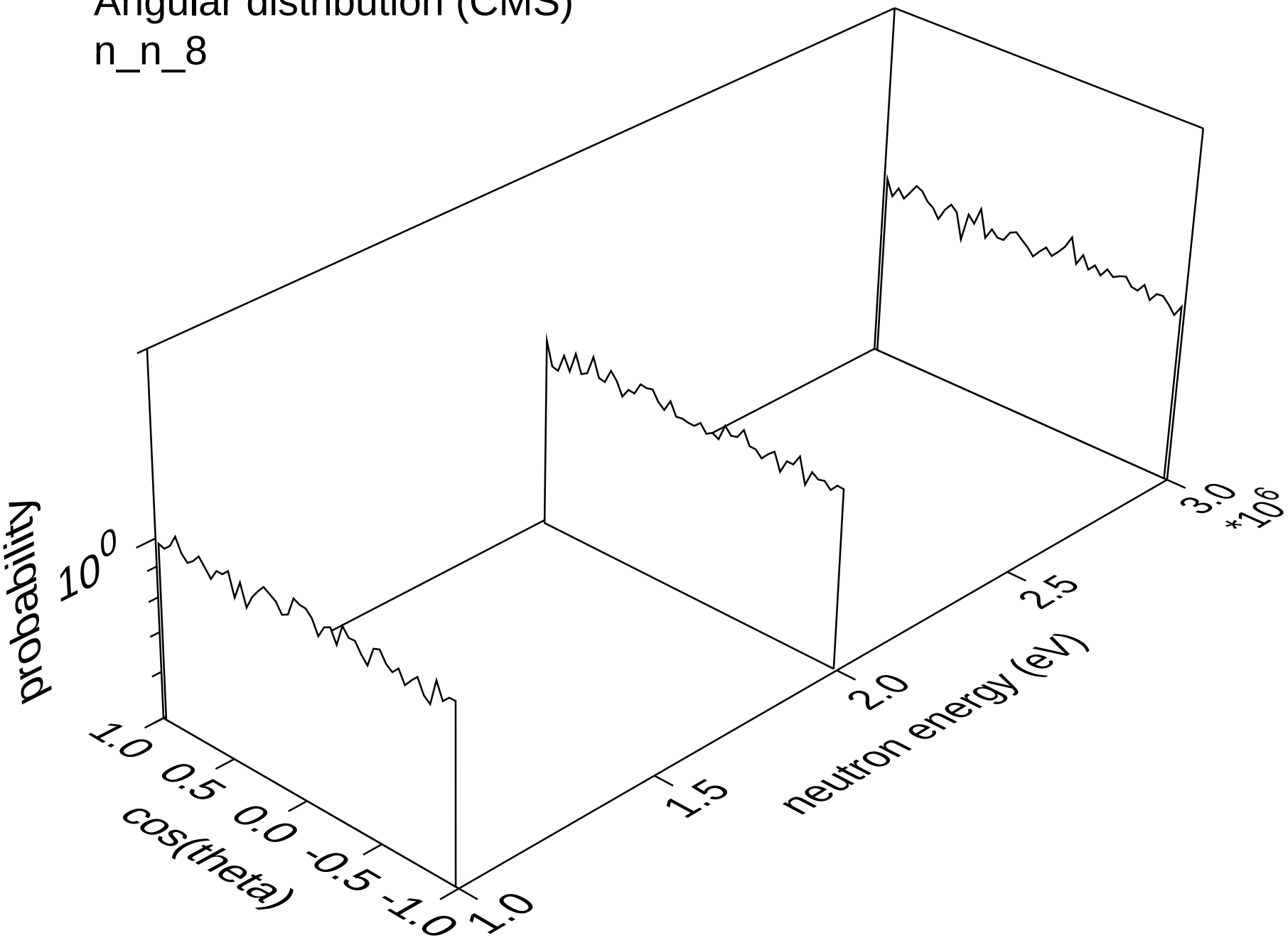

Angular distribution (CMS)
n_n_3
probability
10^0
1.0 0.5 0.0 -0.5 -1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

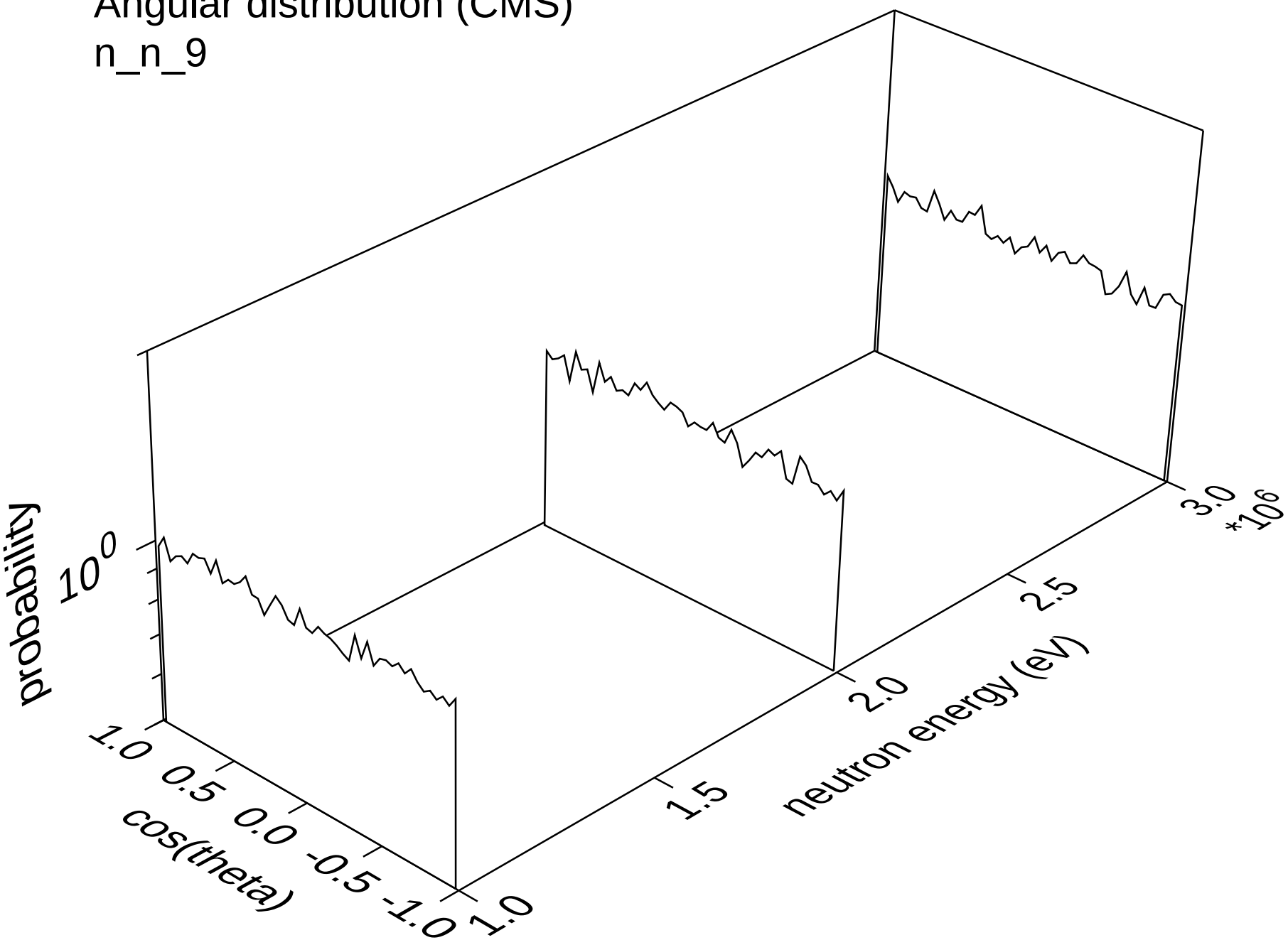

Angular distribution (CMS)
n_n_4
probability
10^0
1.0 0.5 0.0 -0.5 -1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

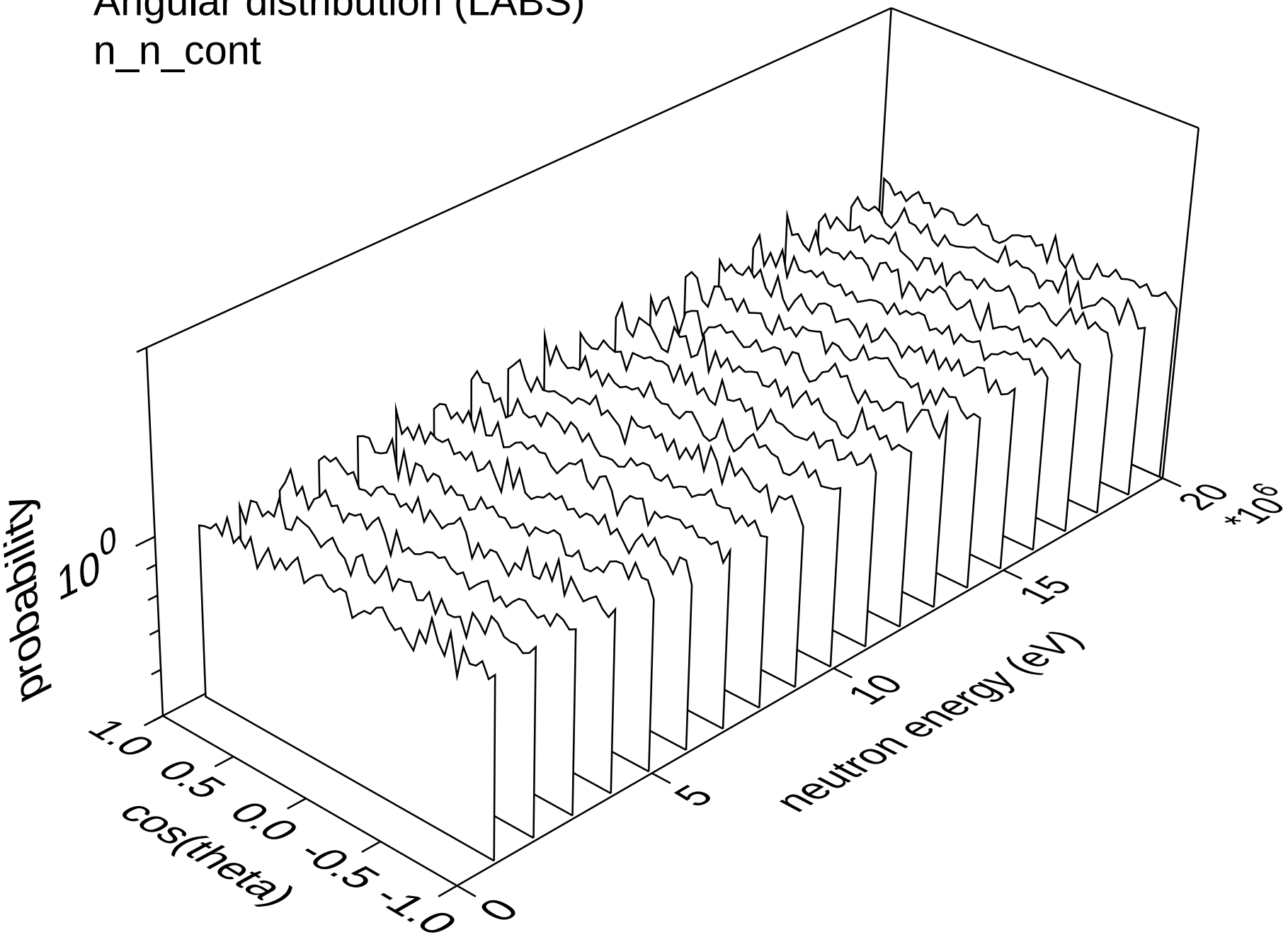

Angular distribution (CMS)
n_n_5
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

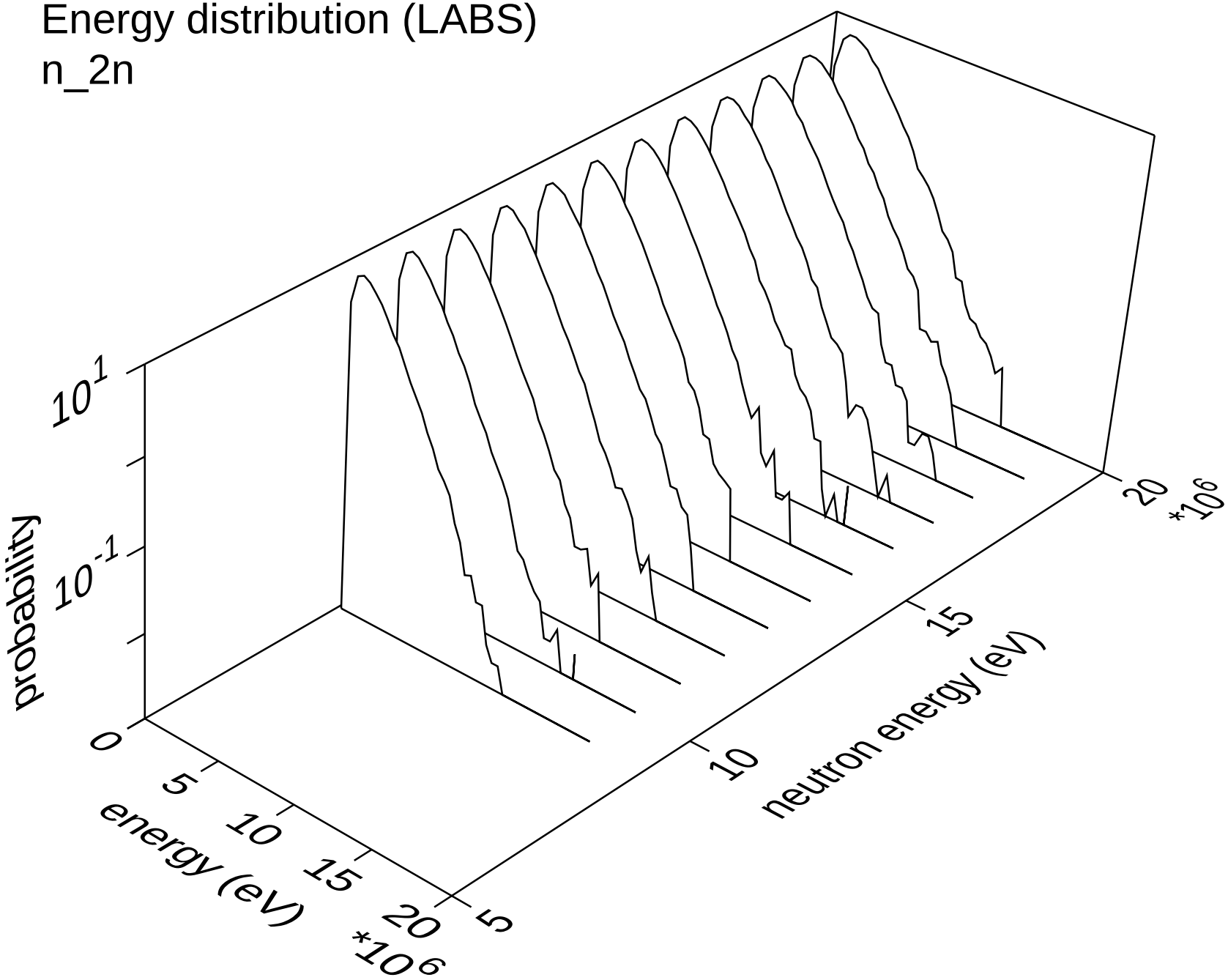

Angular distribution (CMS)
n_n_6
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

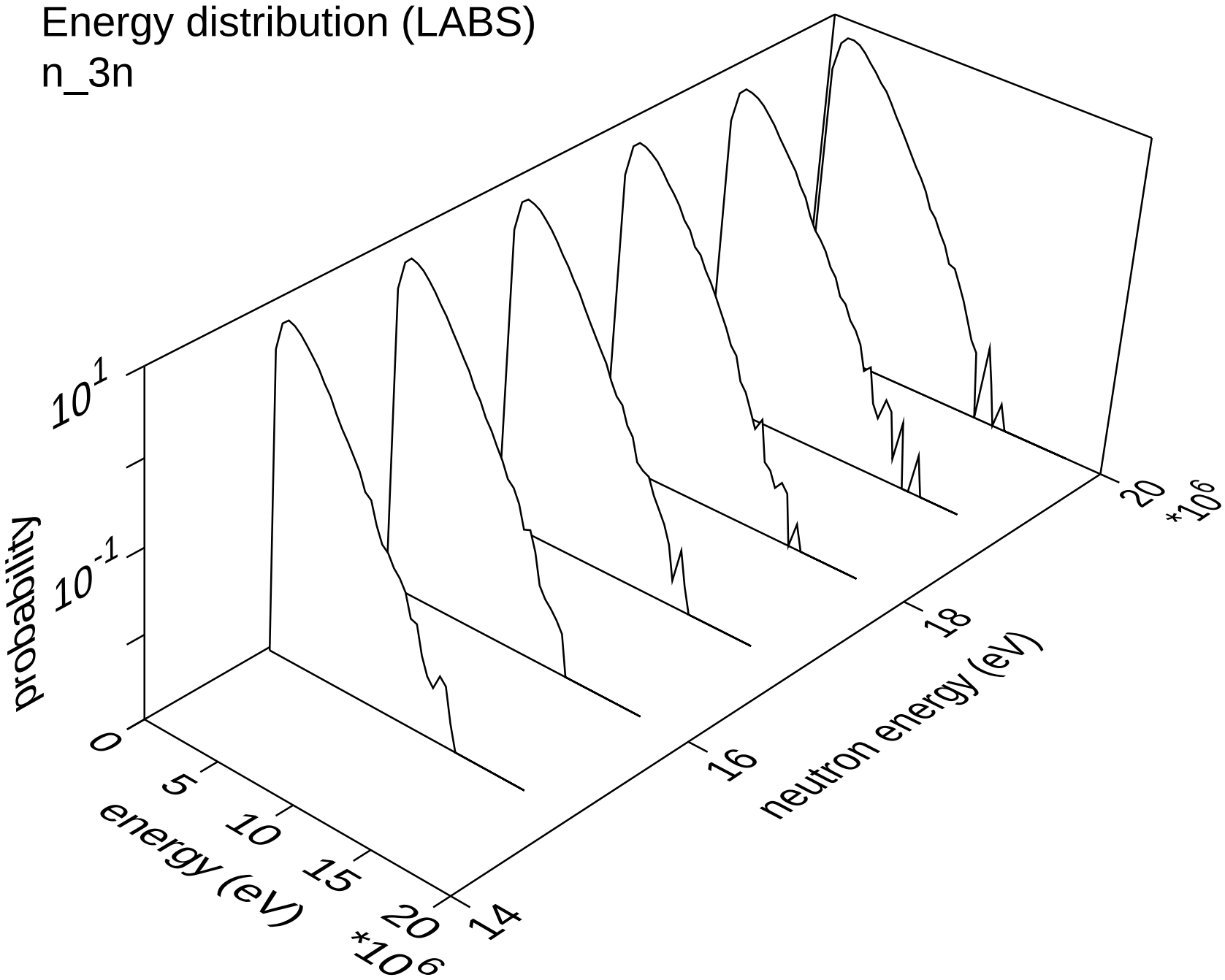

Angular distribution (CMS)
n_n_7
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

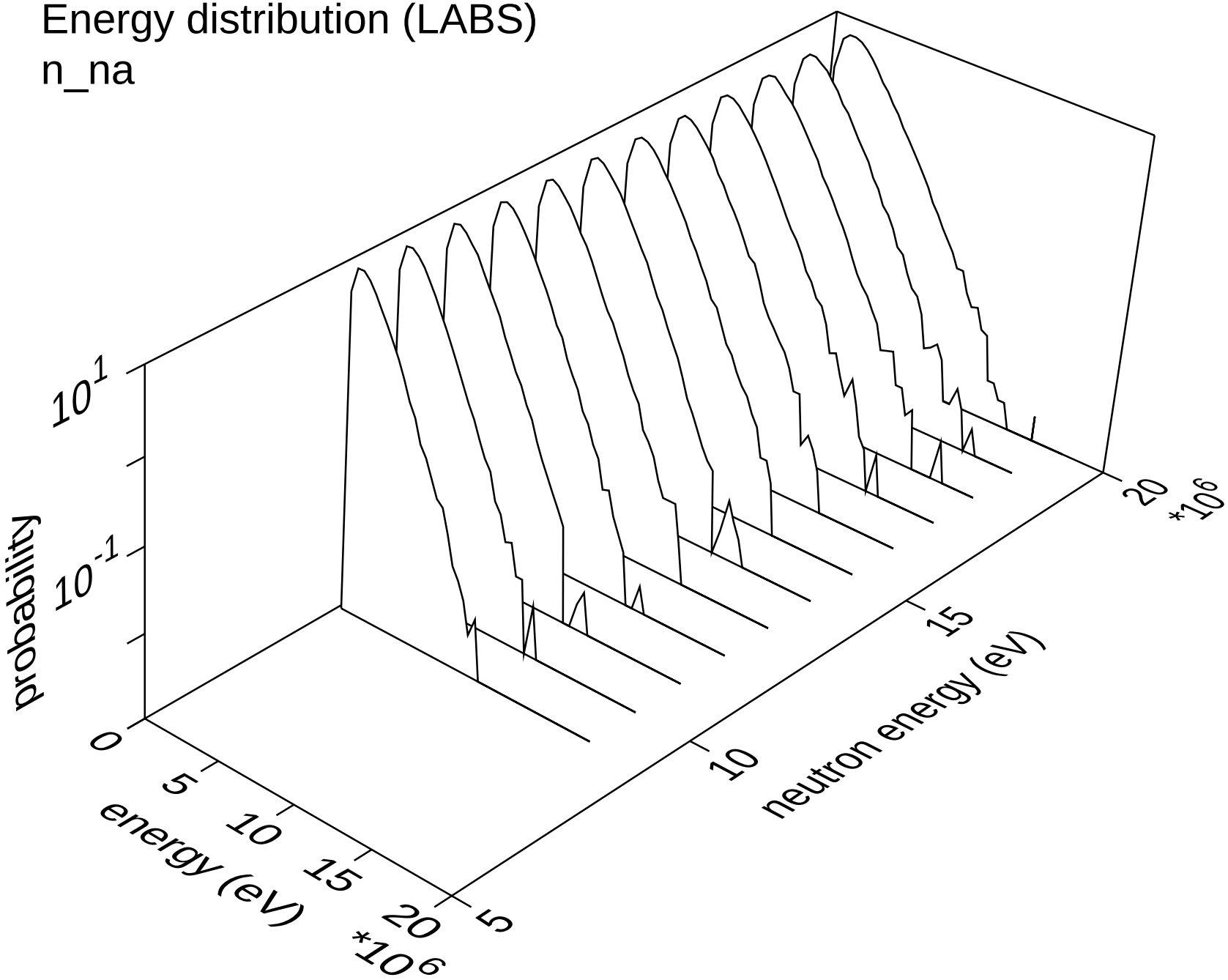

Angular distribution (CMS)
n_n_8
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

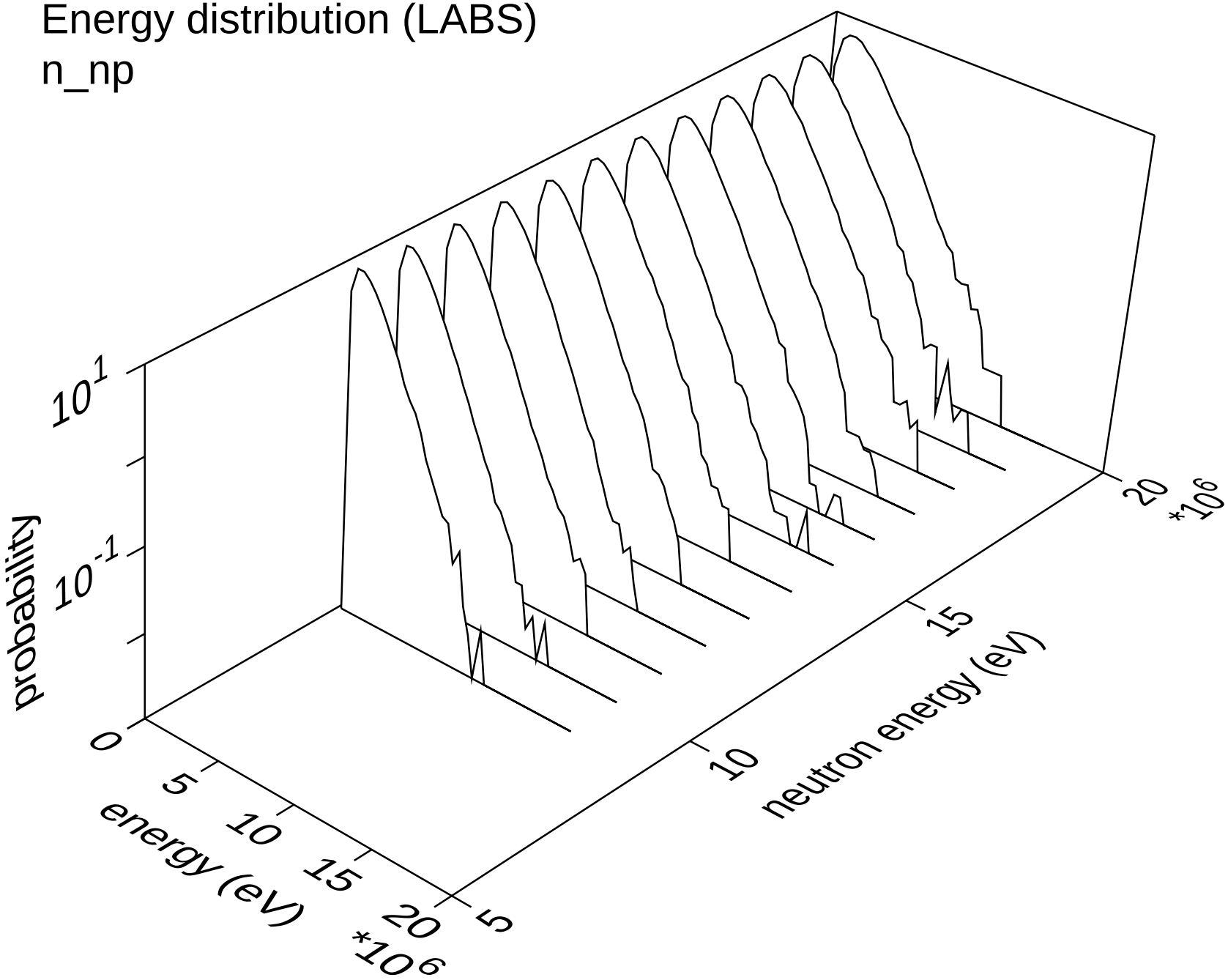

Angular distribution (CMS)
n_n_9
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

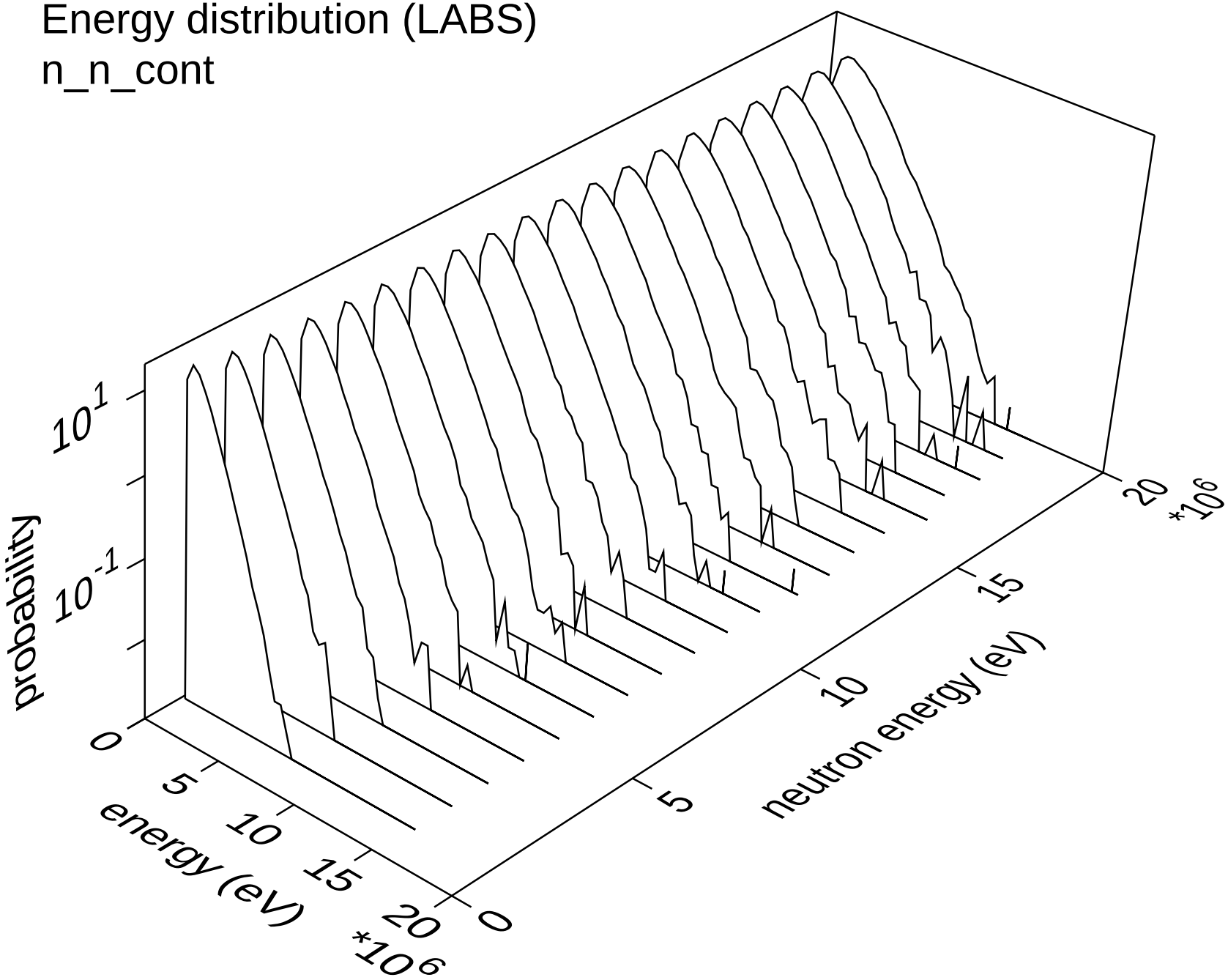

Angular distribution (LABS)
n_n_cont
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
5
10
15
20
*10^6
neutron energy (eV)

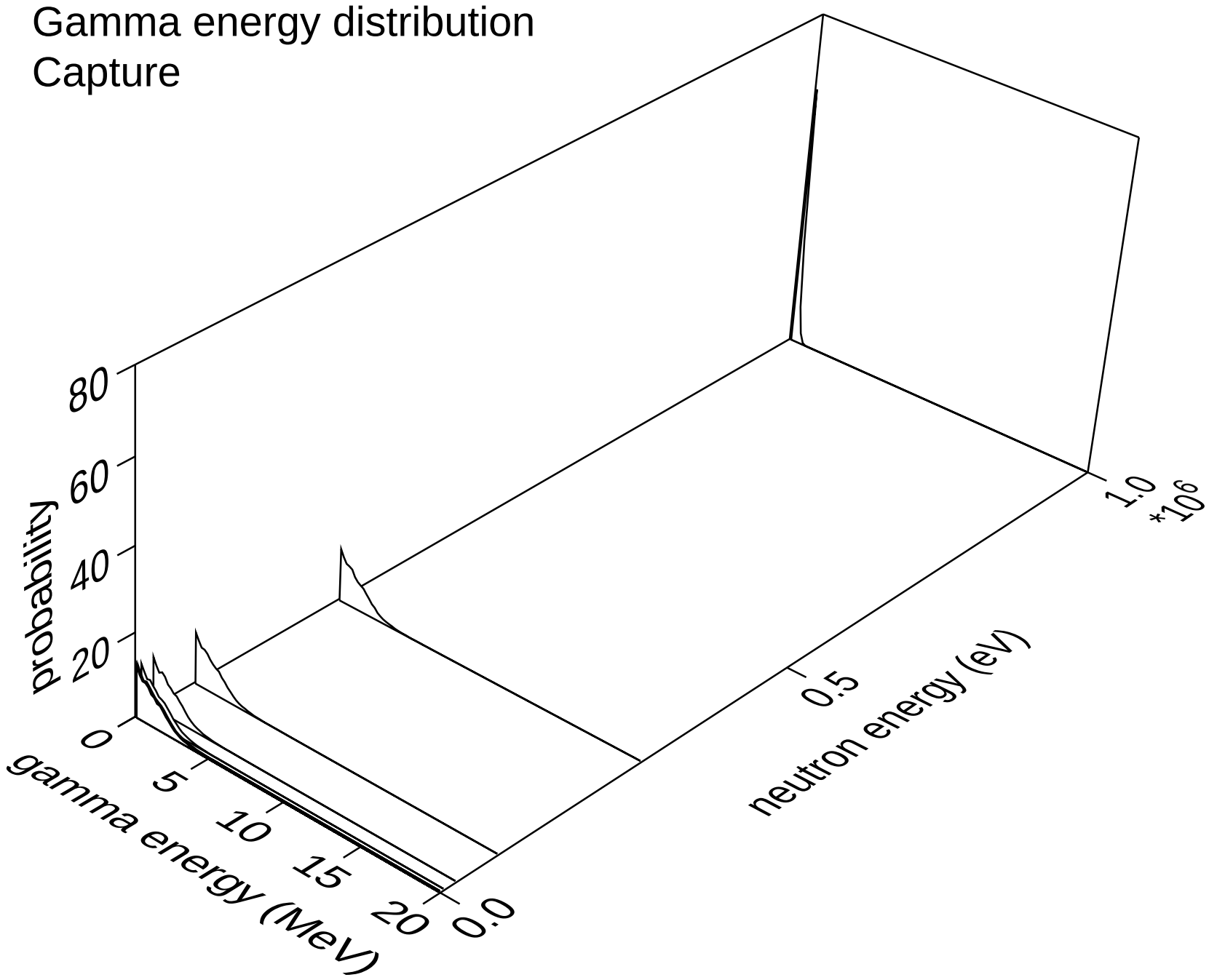

Energy distribution (LABS)
n_2n
probability
10^{1}
10^{-1}
0
5
10
15
20
*10^6
energy (eV)
5
10
15
20
*10^6
neutron energy (eV)

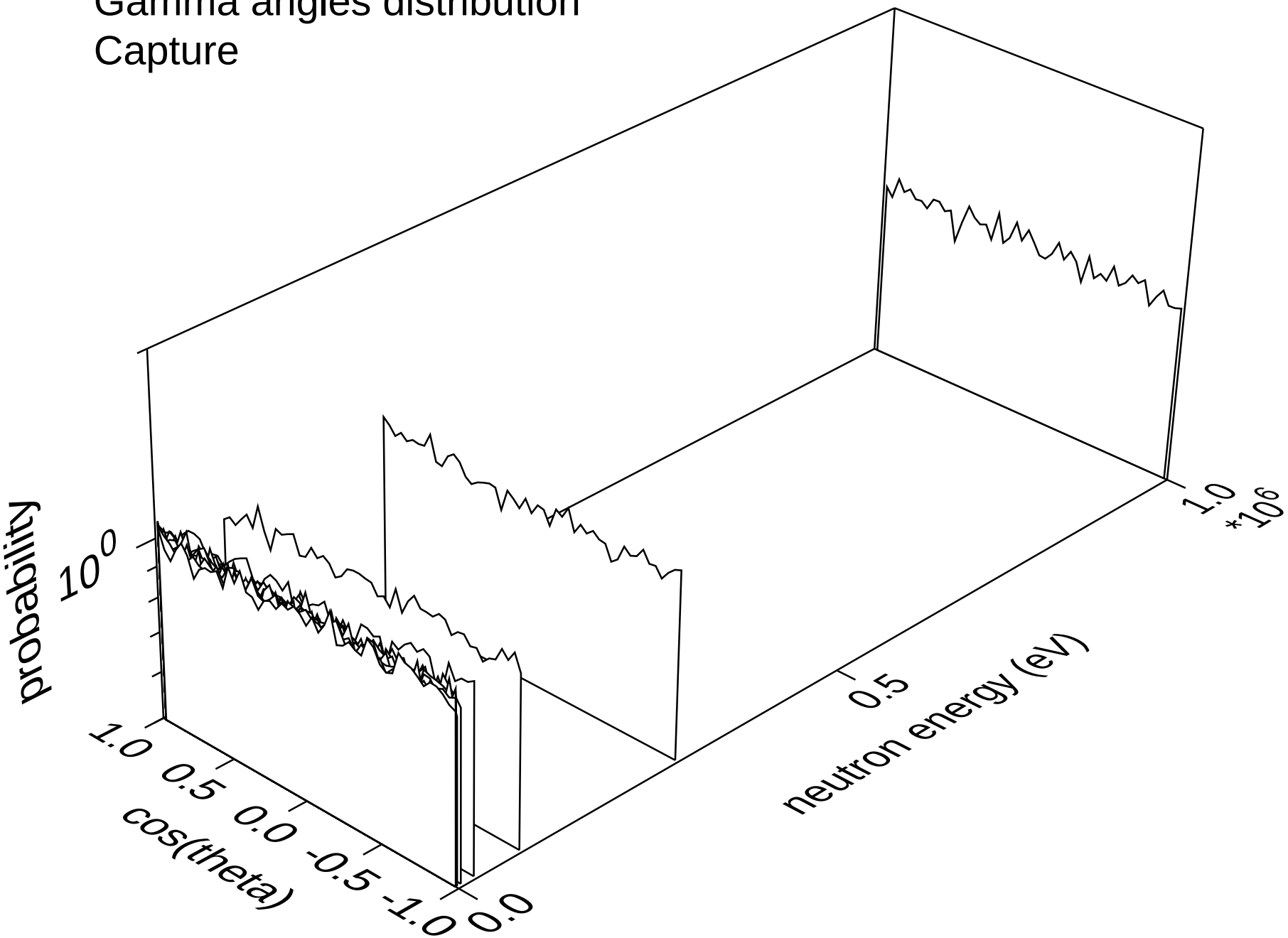

Energy distribution (LABS)
n_3n
probability
10^{1}
10^{-1}
0
5
10
15
20
*10^6
energy (eV)
14
16
18
20
*10^6
neutron energy (eV)


Energy distribution (LABS)
n_na
probability
10^{1}
10^{-1}
0
5
10
15
20
*10^6
energy (eV)
5
10
15
20
*10^6
neutron energy (eV)

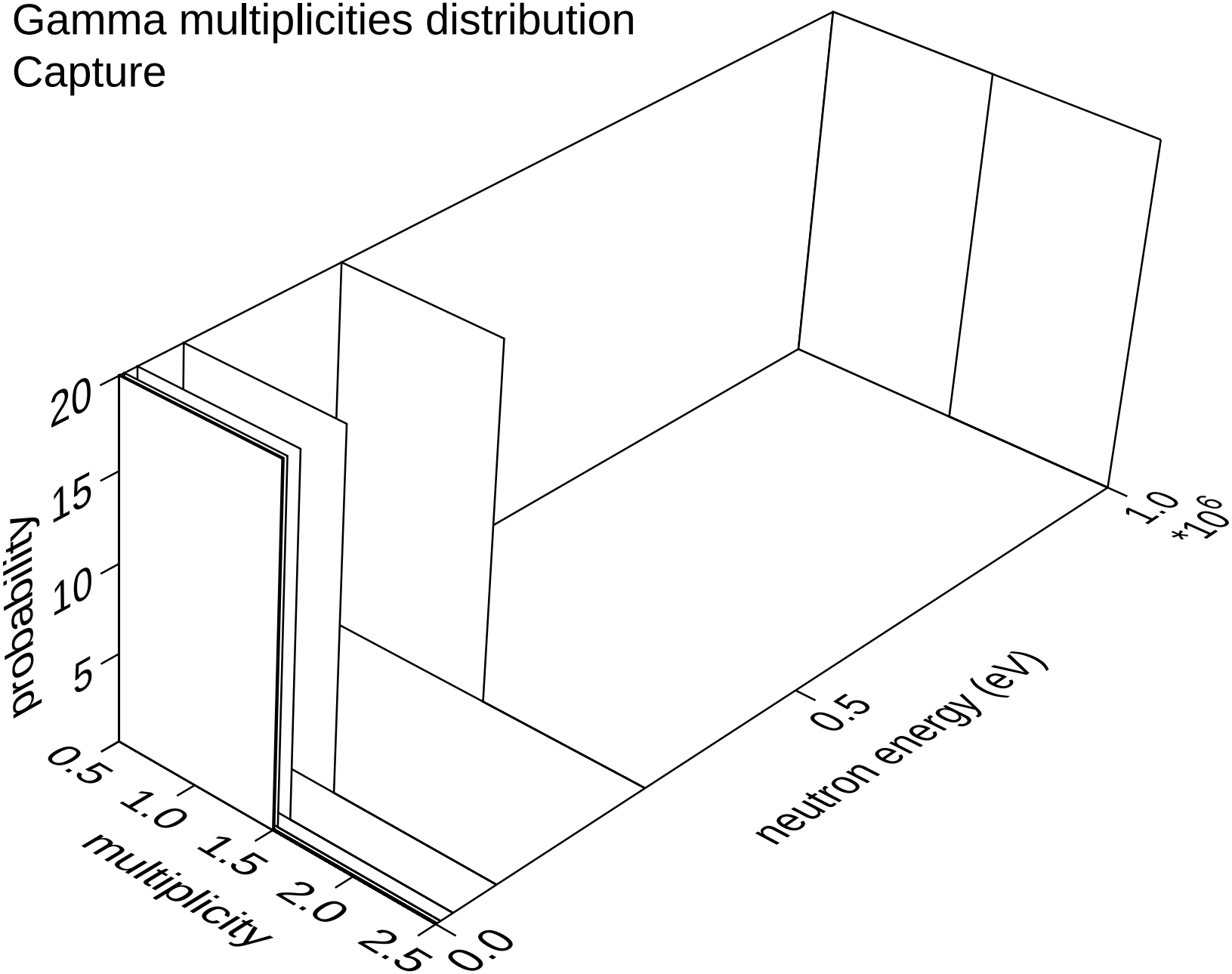

Energy distribution (LABS)
n_np
probability
10^{1}
10^{-1}
0
5
10
15
20
energy (eV)
*10^6
5
10
15
20
neutron energy (eV)
*10^6

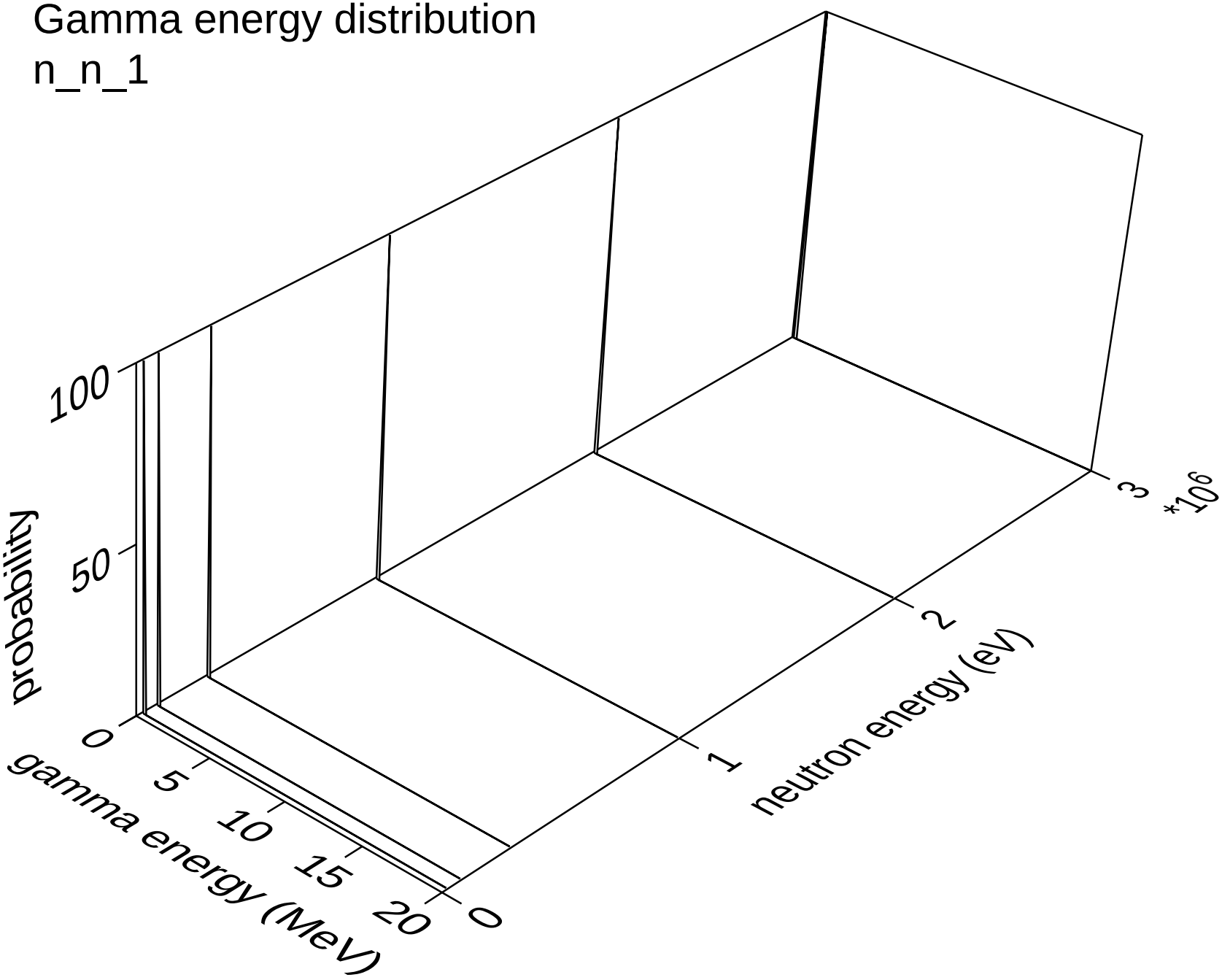

Energy distribution (LABS)
n_n_cont
probability
10^{1}
10^{-1}
0
5
10
15
20
*10^6
energy (eV)
0
5
10
15
20
*10^6
neutron energy (eV)

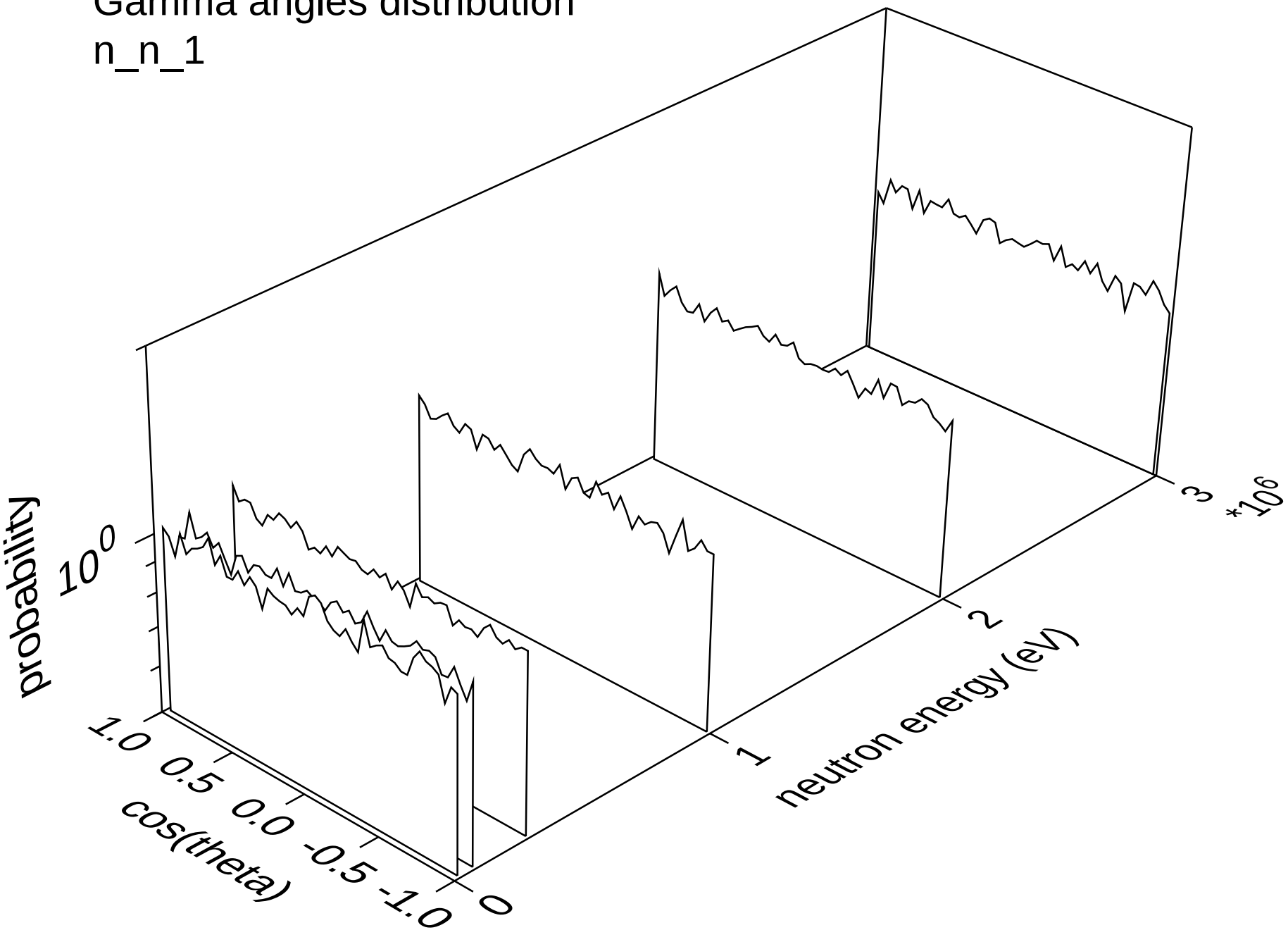

Gamma energy distribution
Capture
probability
80
60
40
20
0
gamma energy (MeV)
5
10
15
20
0.0
neutron energy (eV)
0.5
1.0
*10^6


Gamma angles distribution
Capture
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0.0
0.5
1.0
*10^6
neutron energy (eV)

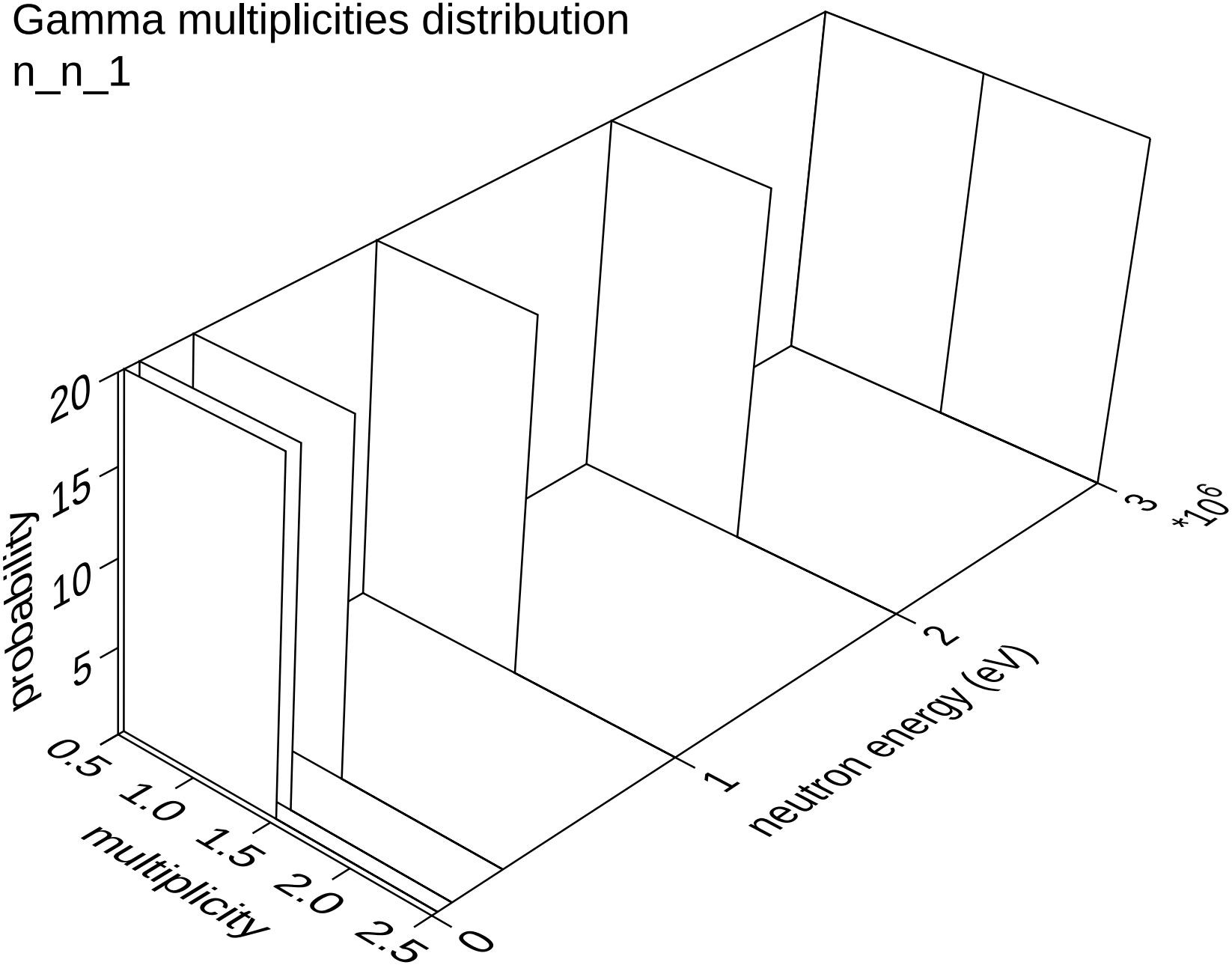
Gamma multiplicities distribution
Capture

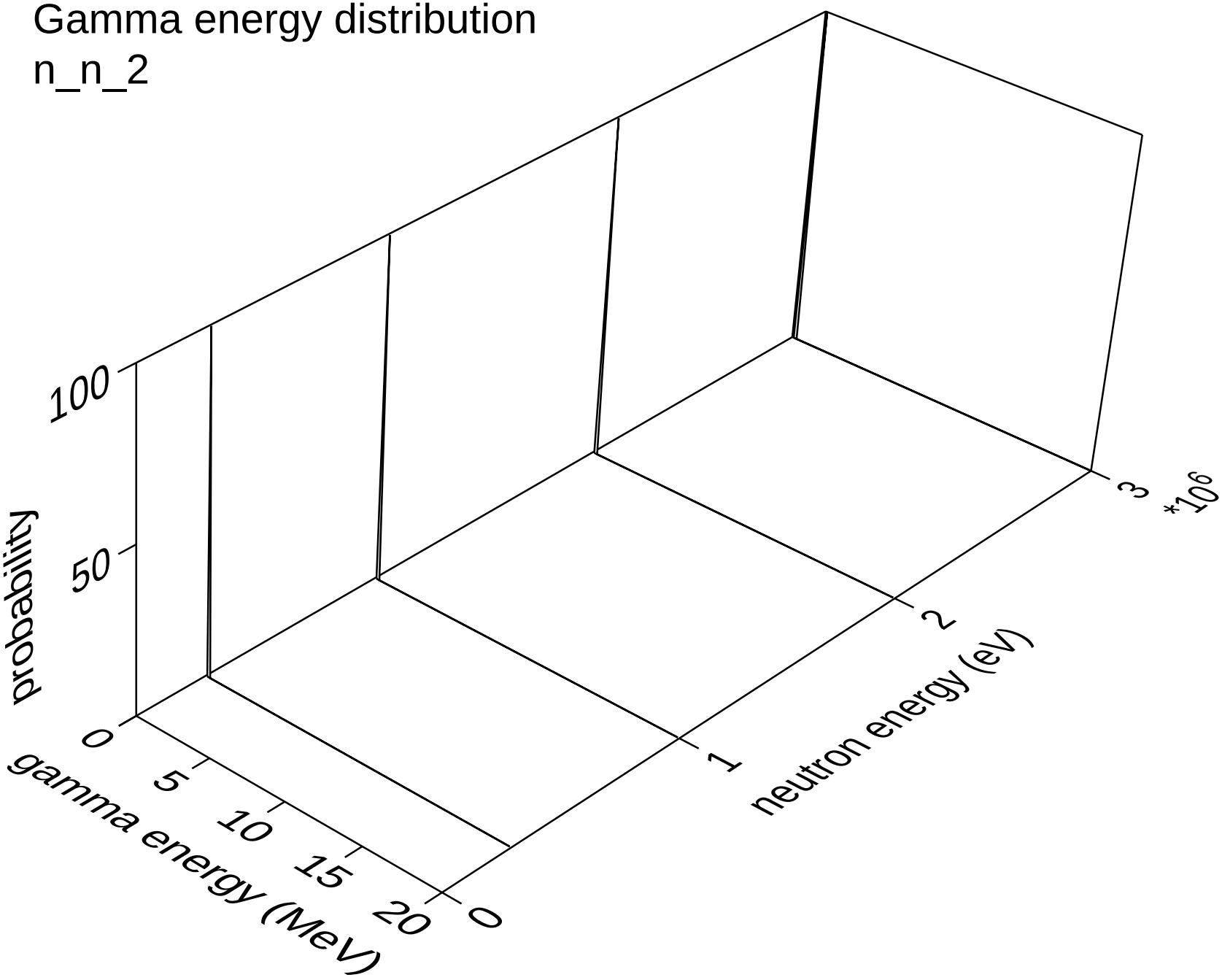


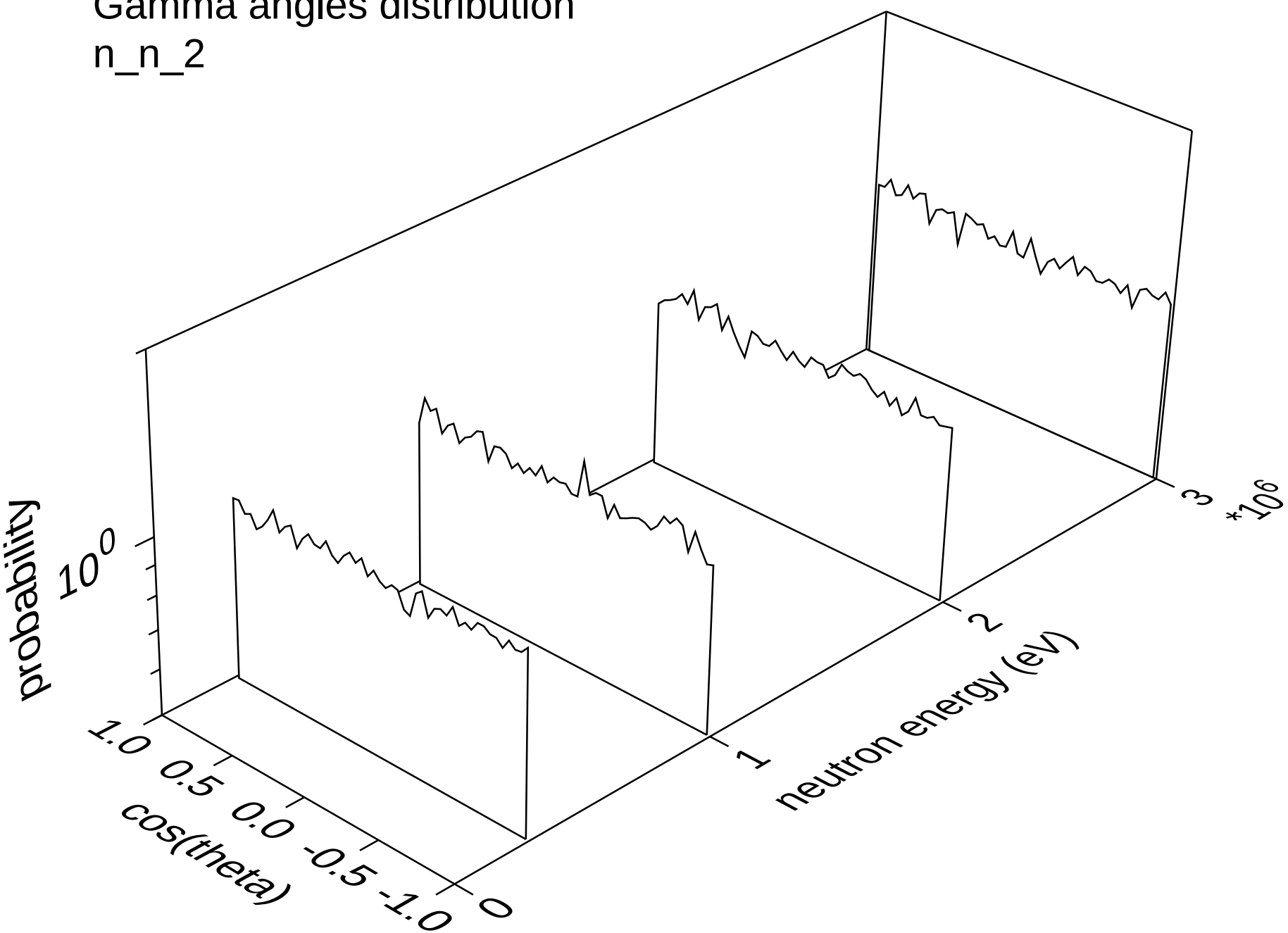

Gamma energy distribution
n_n_1
probability
100
50
0
gamma energy (MeV)
0
5
10
15
20
neutron energy (eV)
1
2
3
*10^6


Gamma angles distribution
n_n_1
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

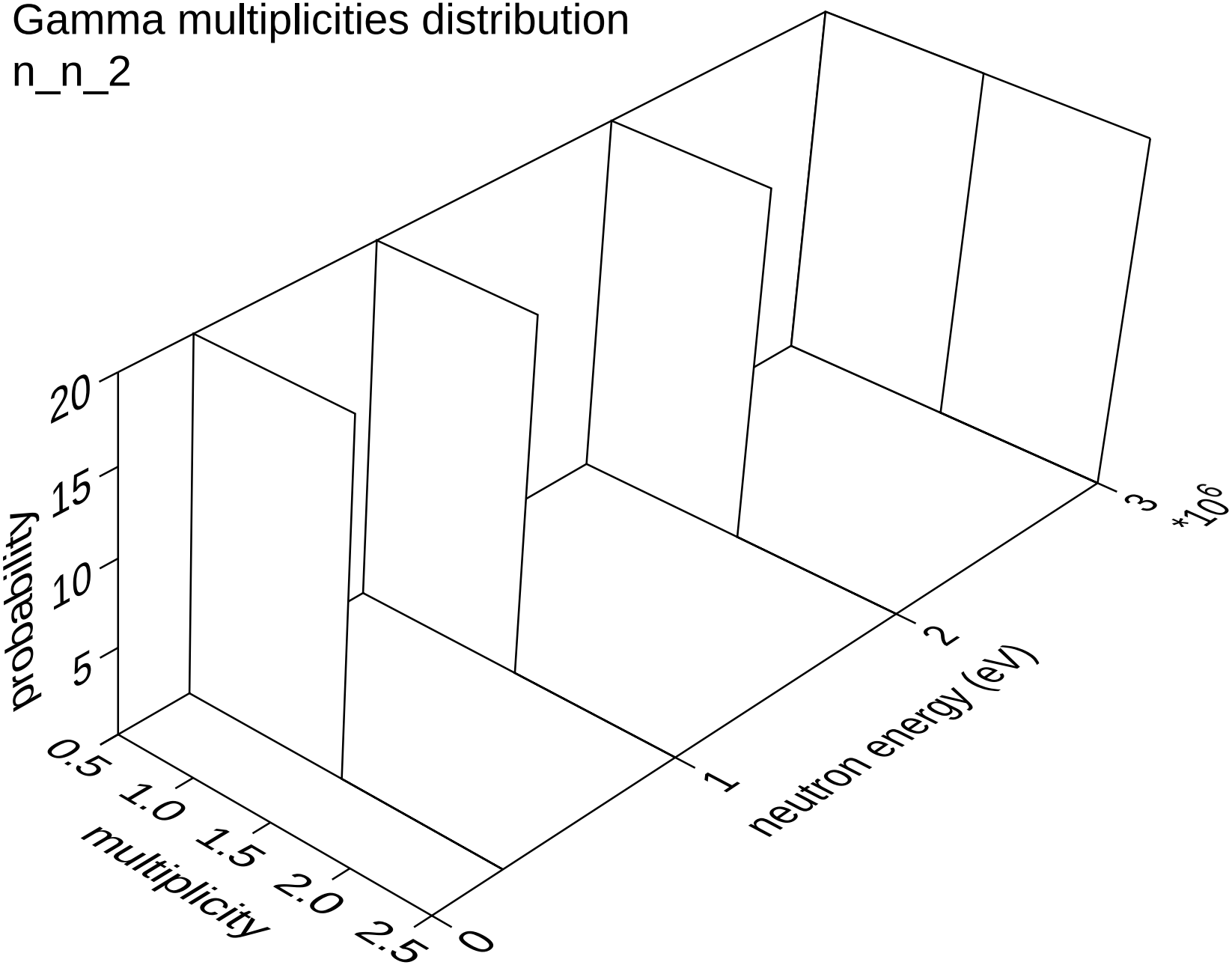
Gamma multiplicities distribution
n_n_1

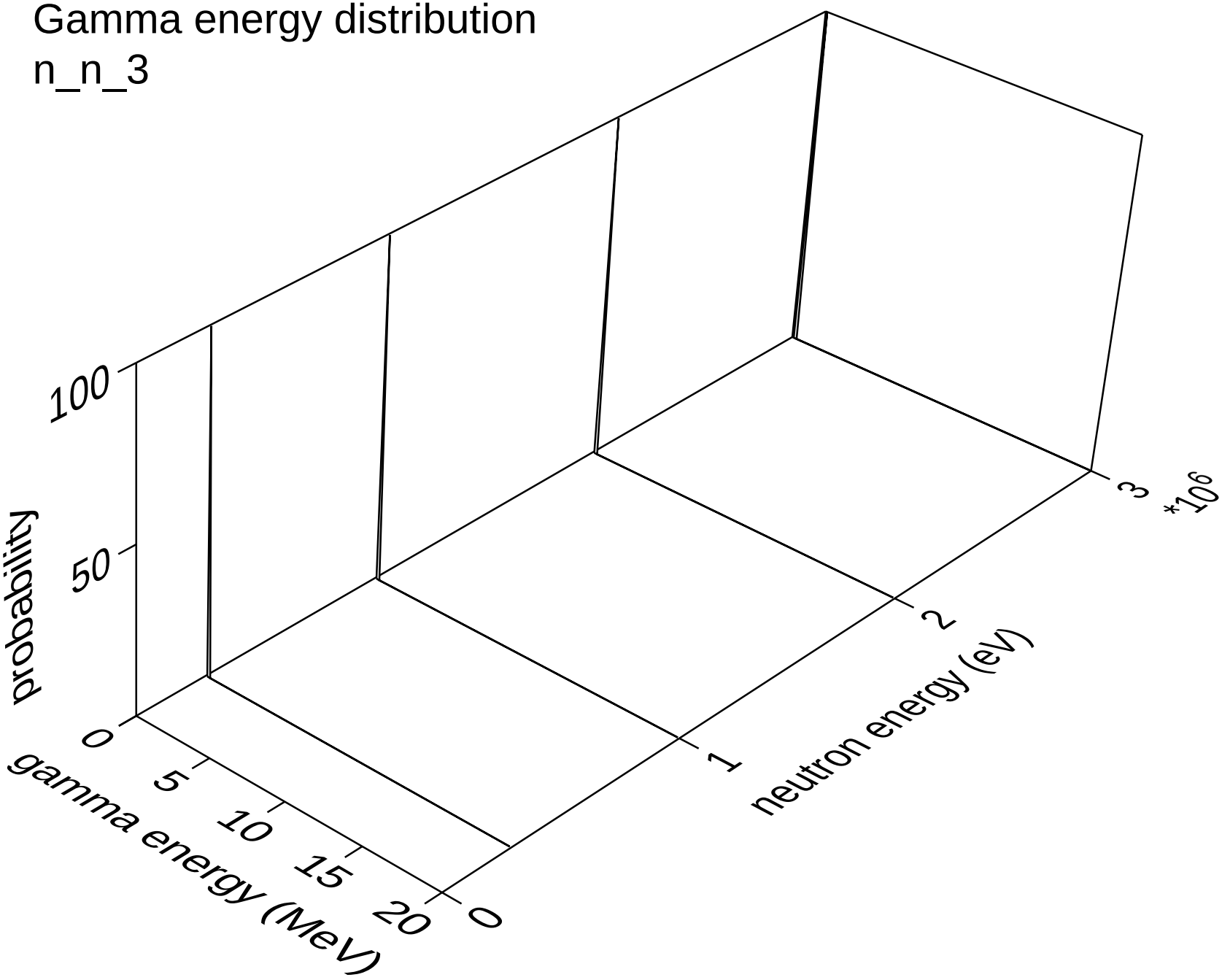


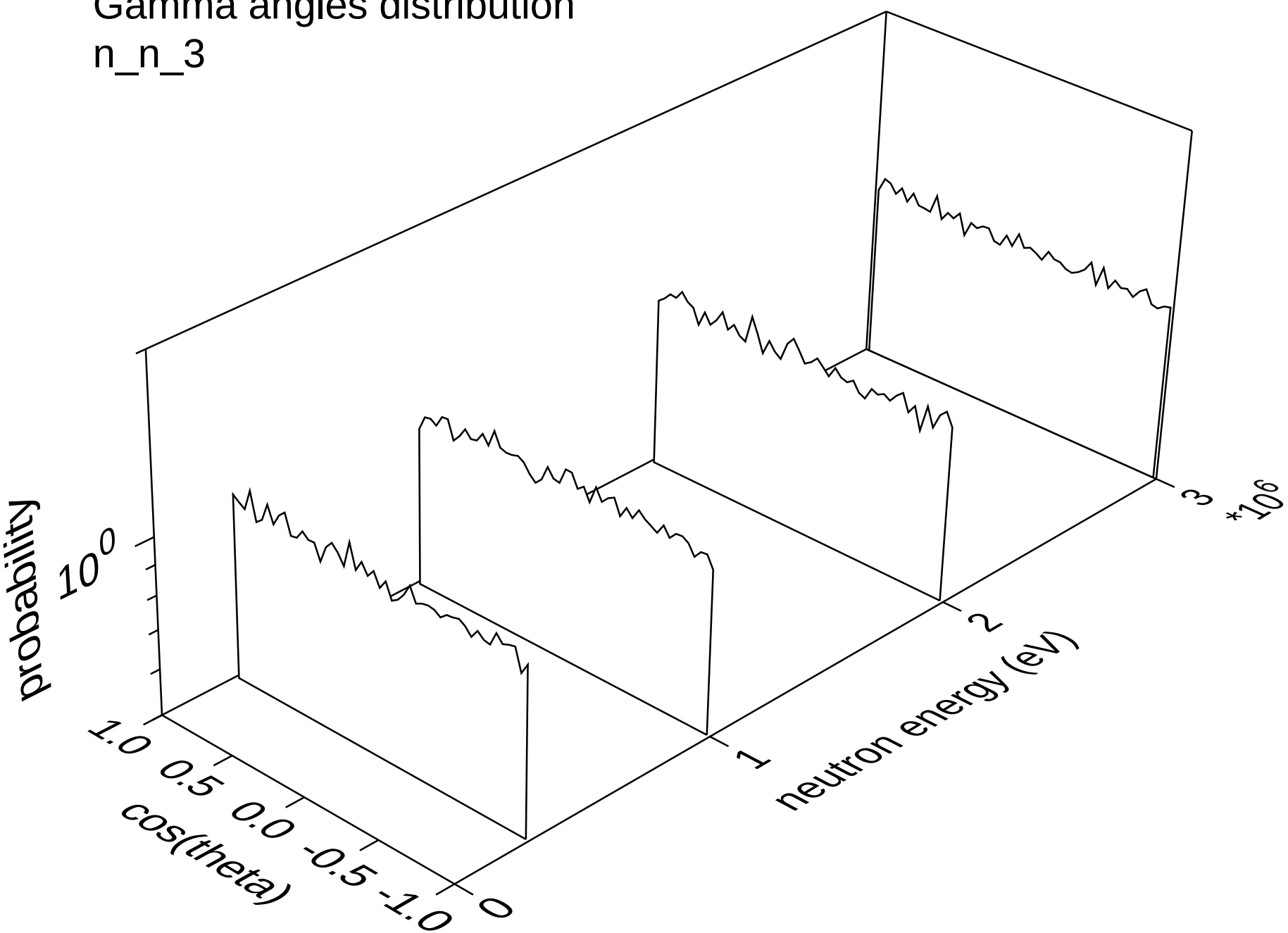

Gamma energy distribution
n_n_2
probability
100
50
0
gamma energy (MeV)
0
5
10
15
20
neutron energy (eV)
1
2
3
*10^6


Gamma angles distribution
n_n_2
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

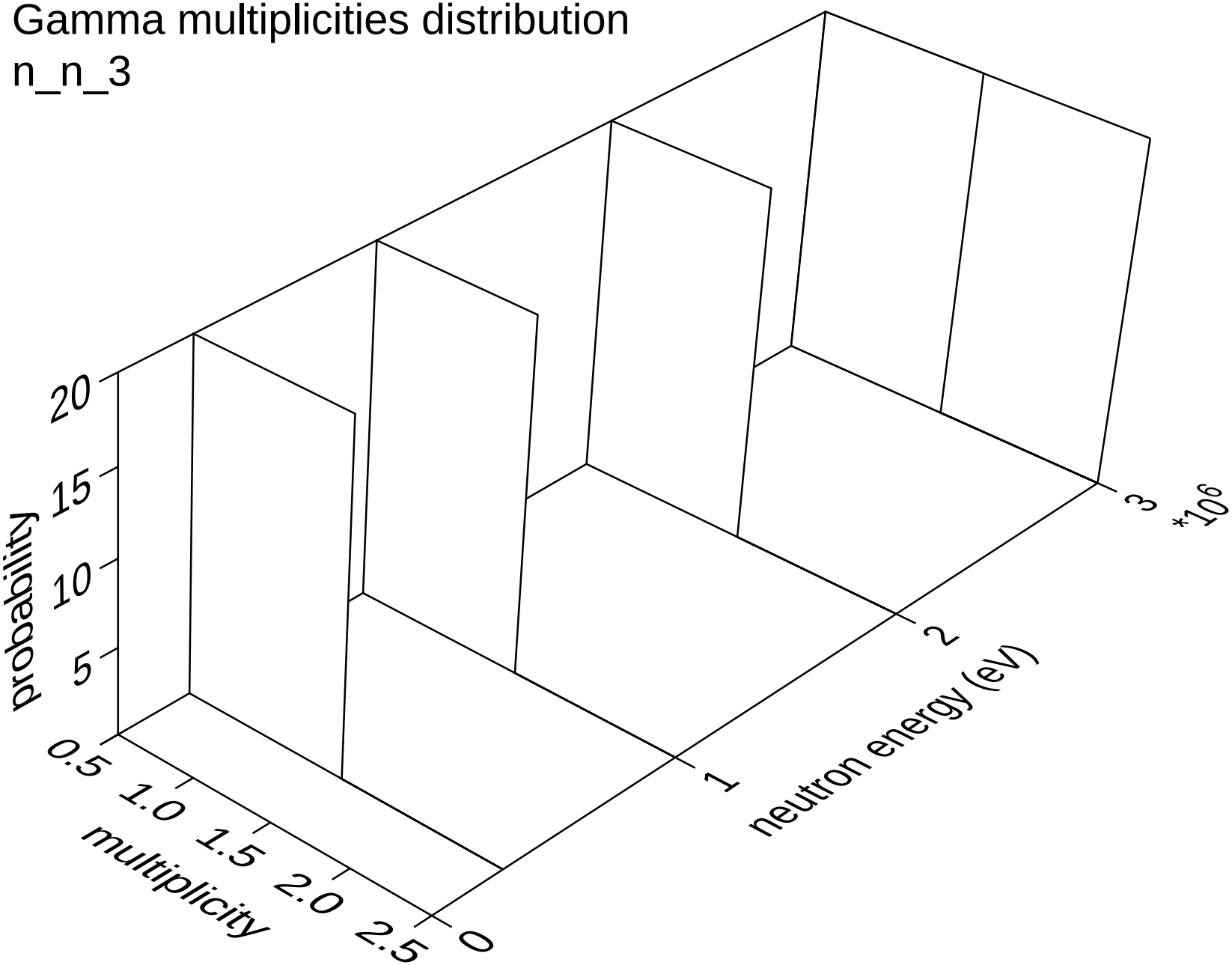
Gamma multiplicities distribution
n_n_2

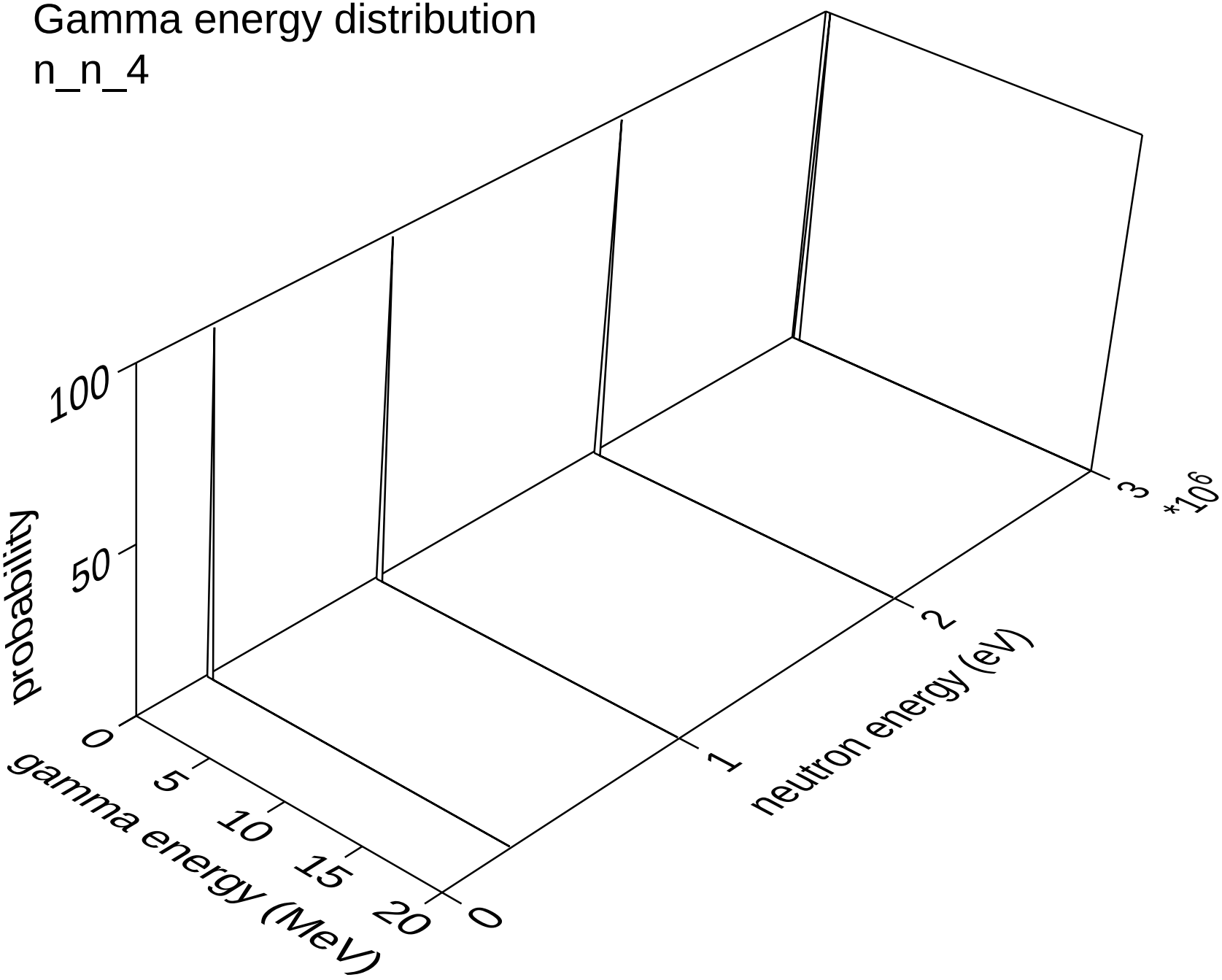


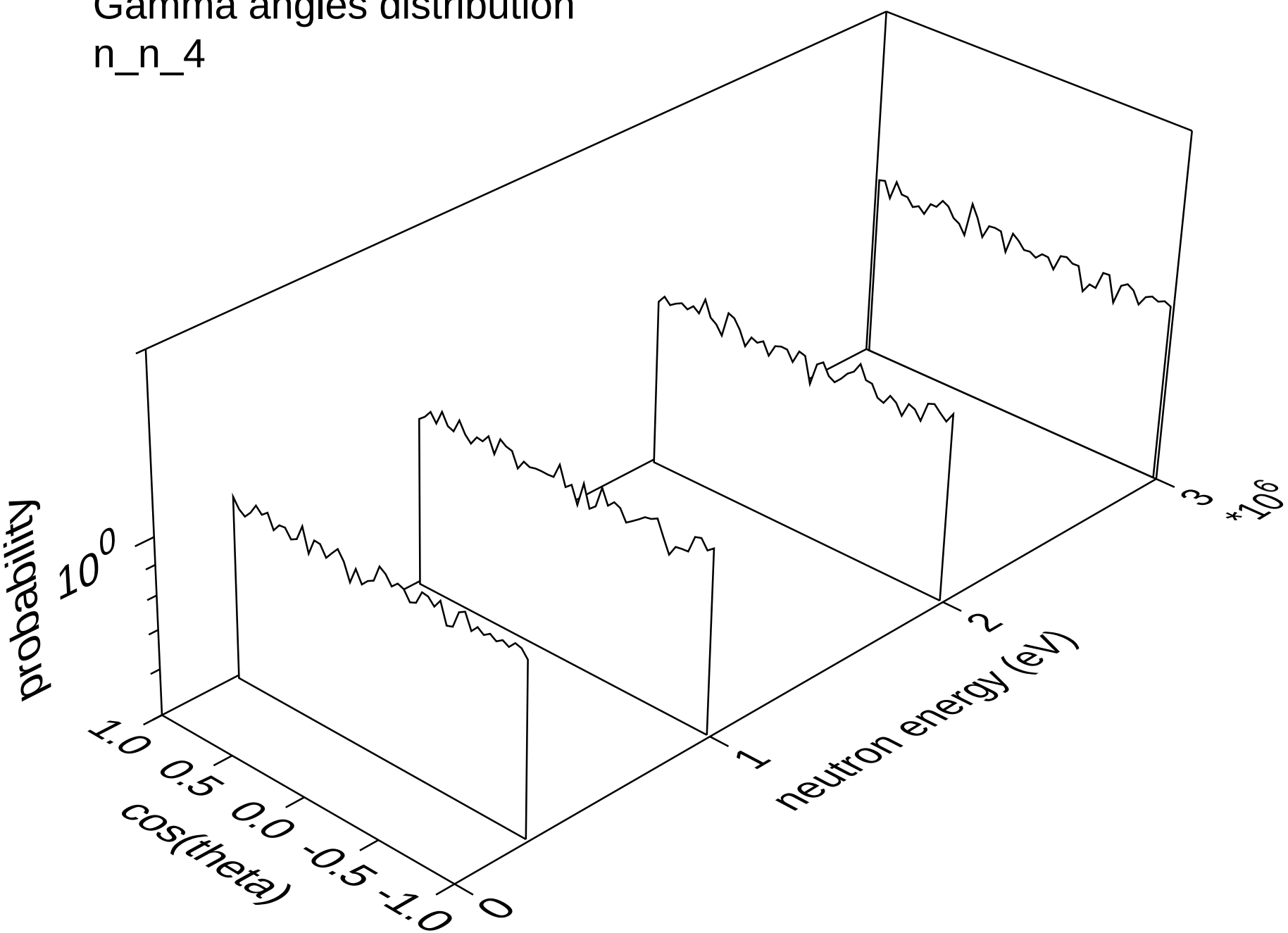

Gamma energy distribution
n_n_3
probability
100
50
0
gamma energy (MeV)
0
5
10
15
20
neutron energy (eV)
1
2
3
*10^6


Gamma angles distribution
n_n_3
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

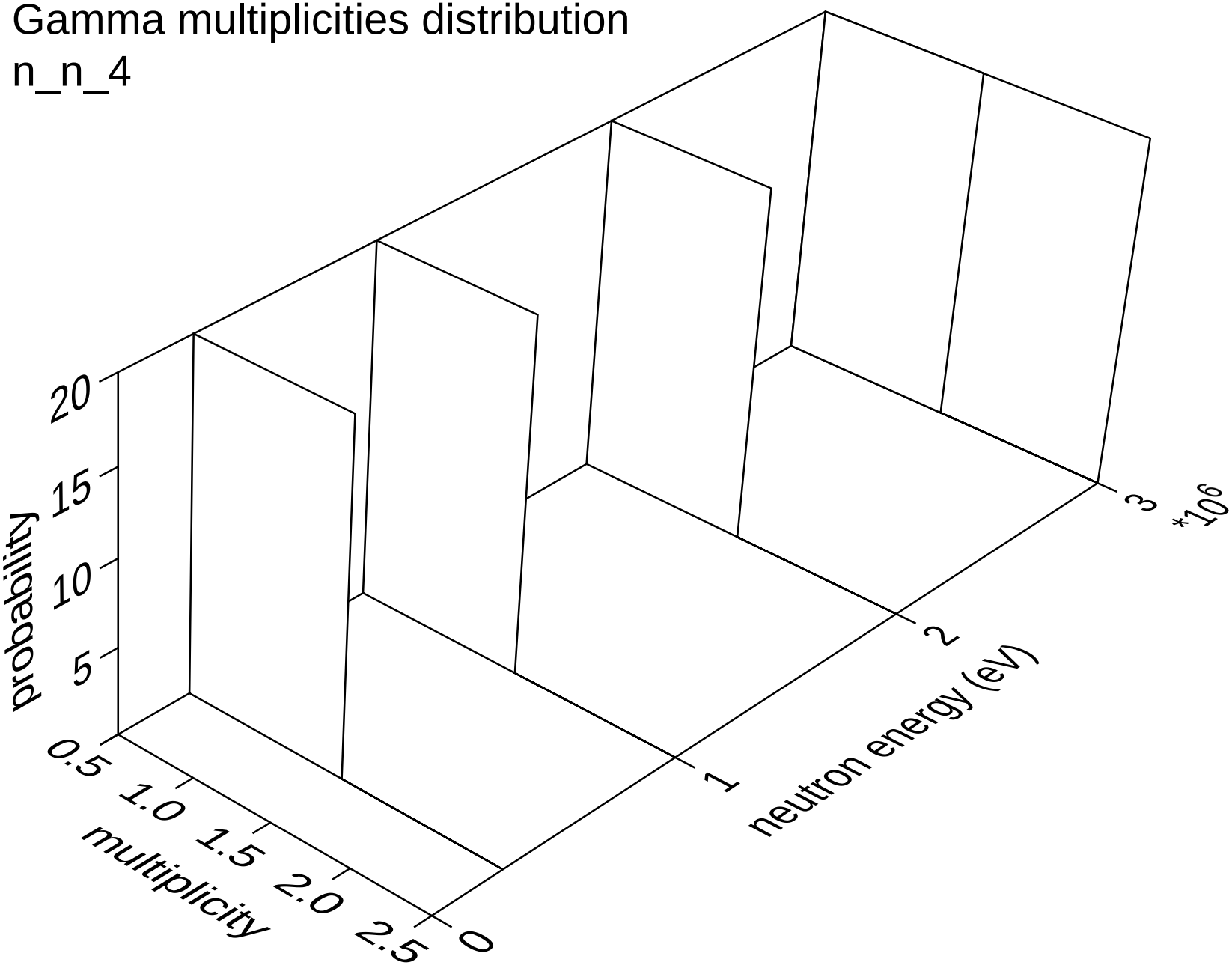
Gamma multiplicities distribution
n_n_3

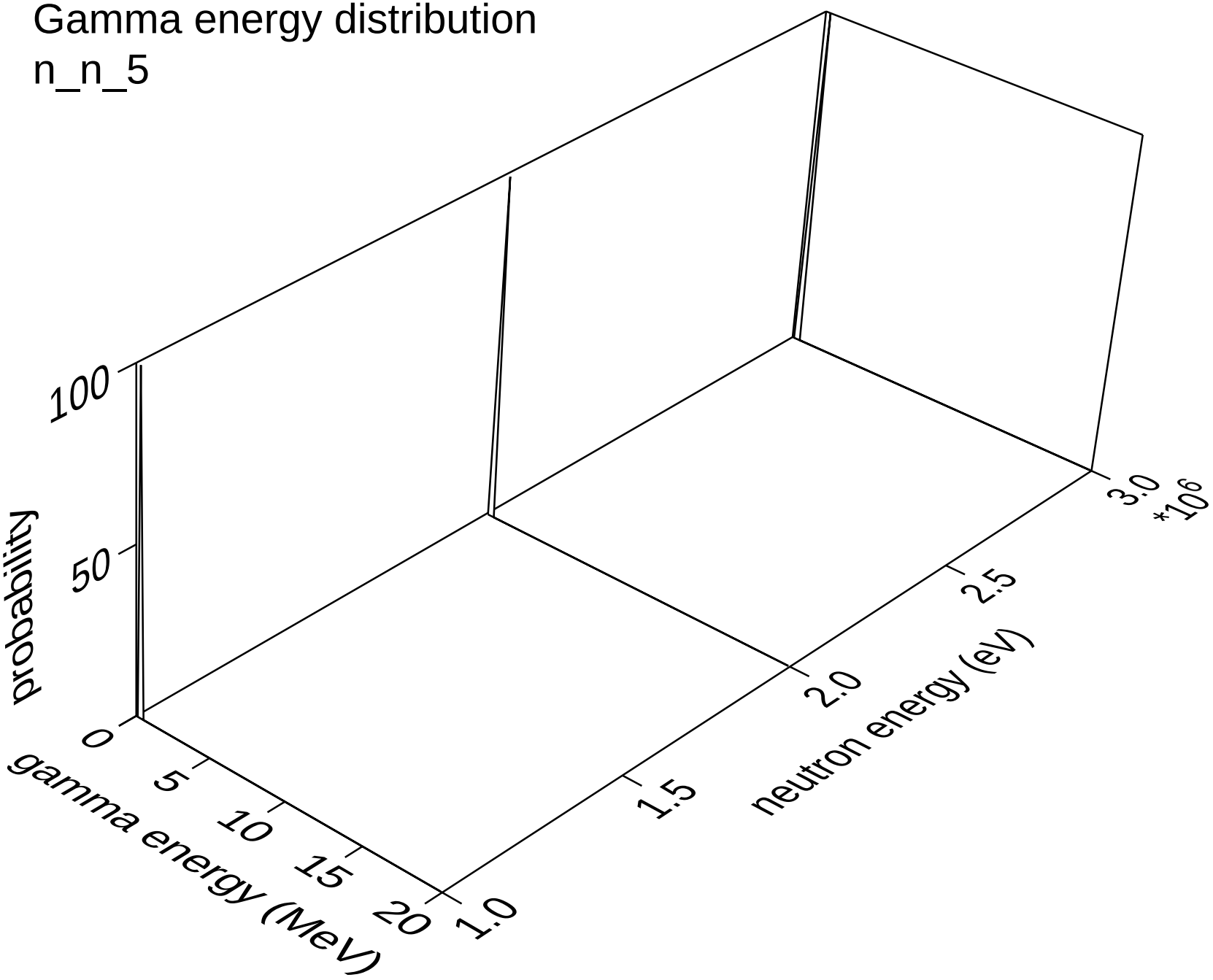


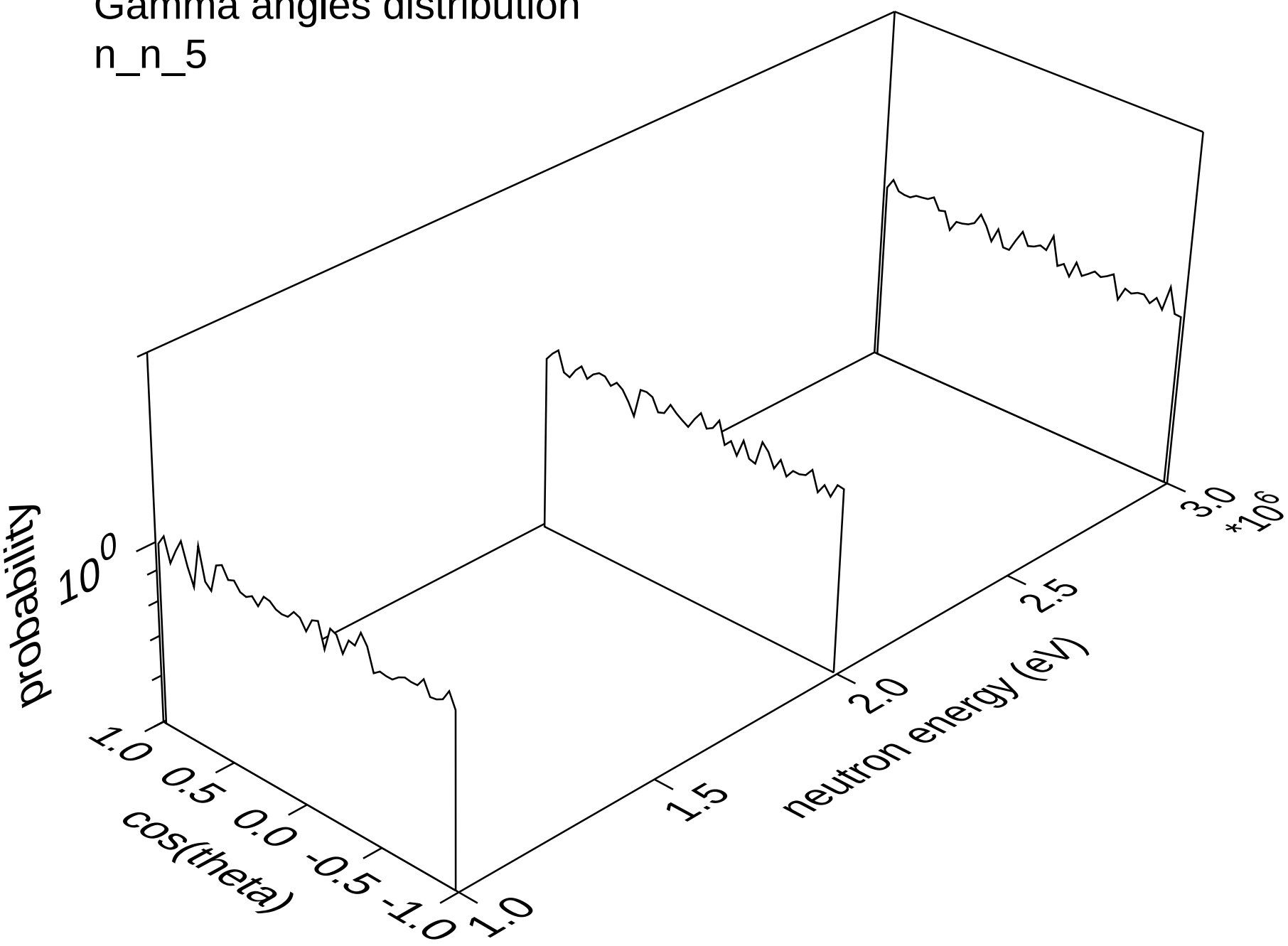

Gamma energy distribution
n_n_4
probability
100
50
0
gamma energy (MeV)
0
5
10
15
20
neutron energy (eV)
1
2
3
*10^6


Gamma angles distribution
n_n_4
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
0
1
2
3
*10^6
neutron energy (eV)

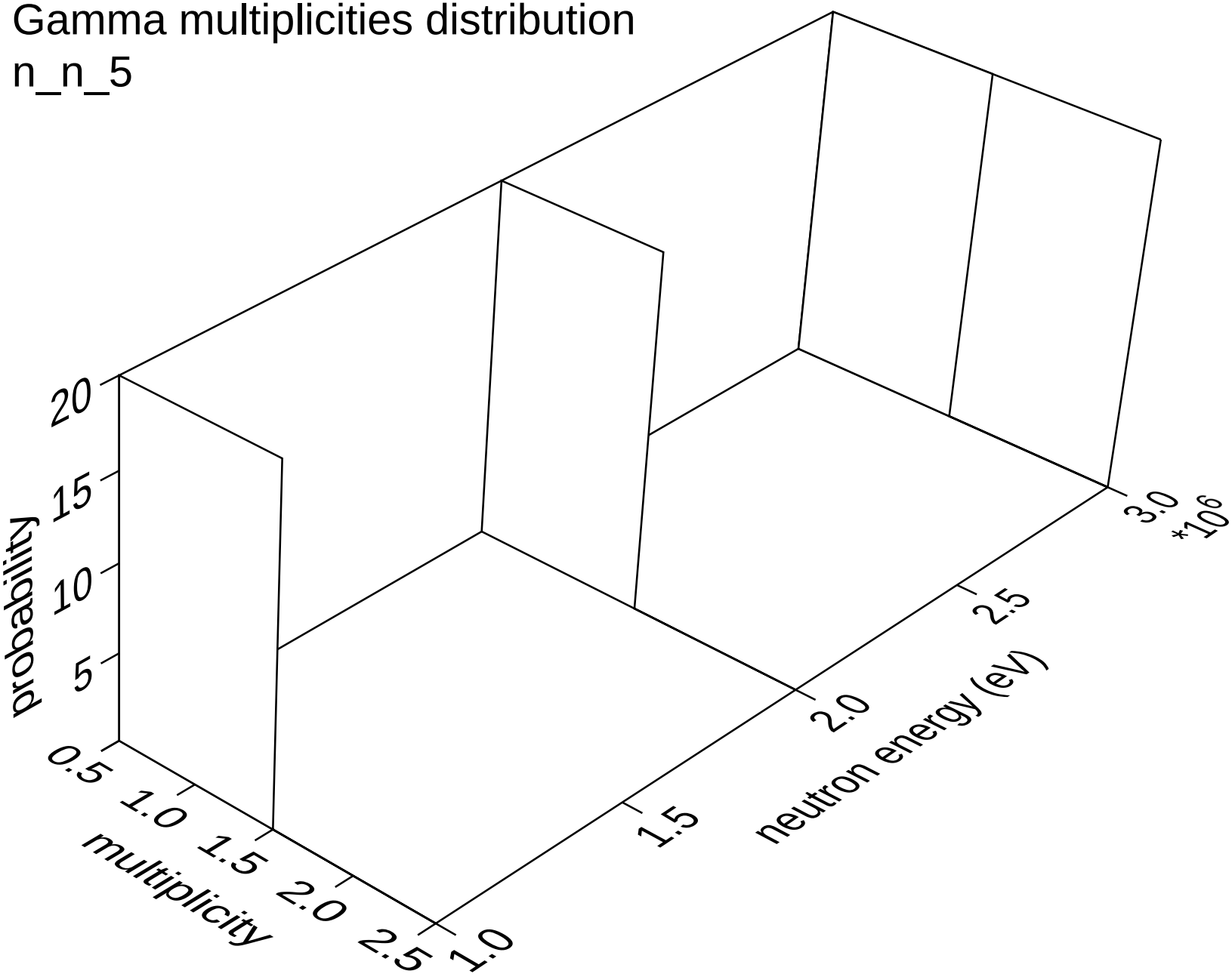
Gamma multiplicities distribution
n_n_4

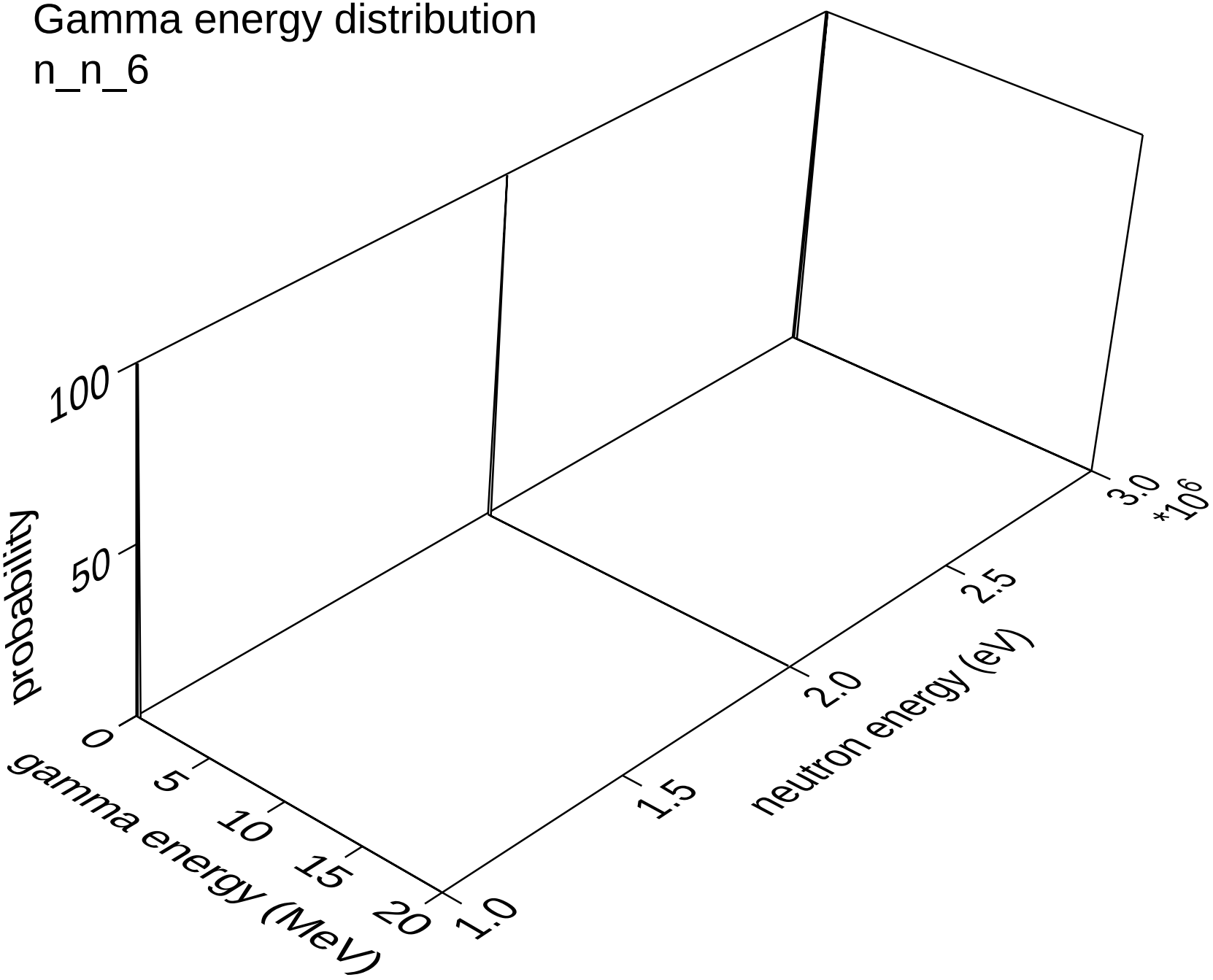


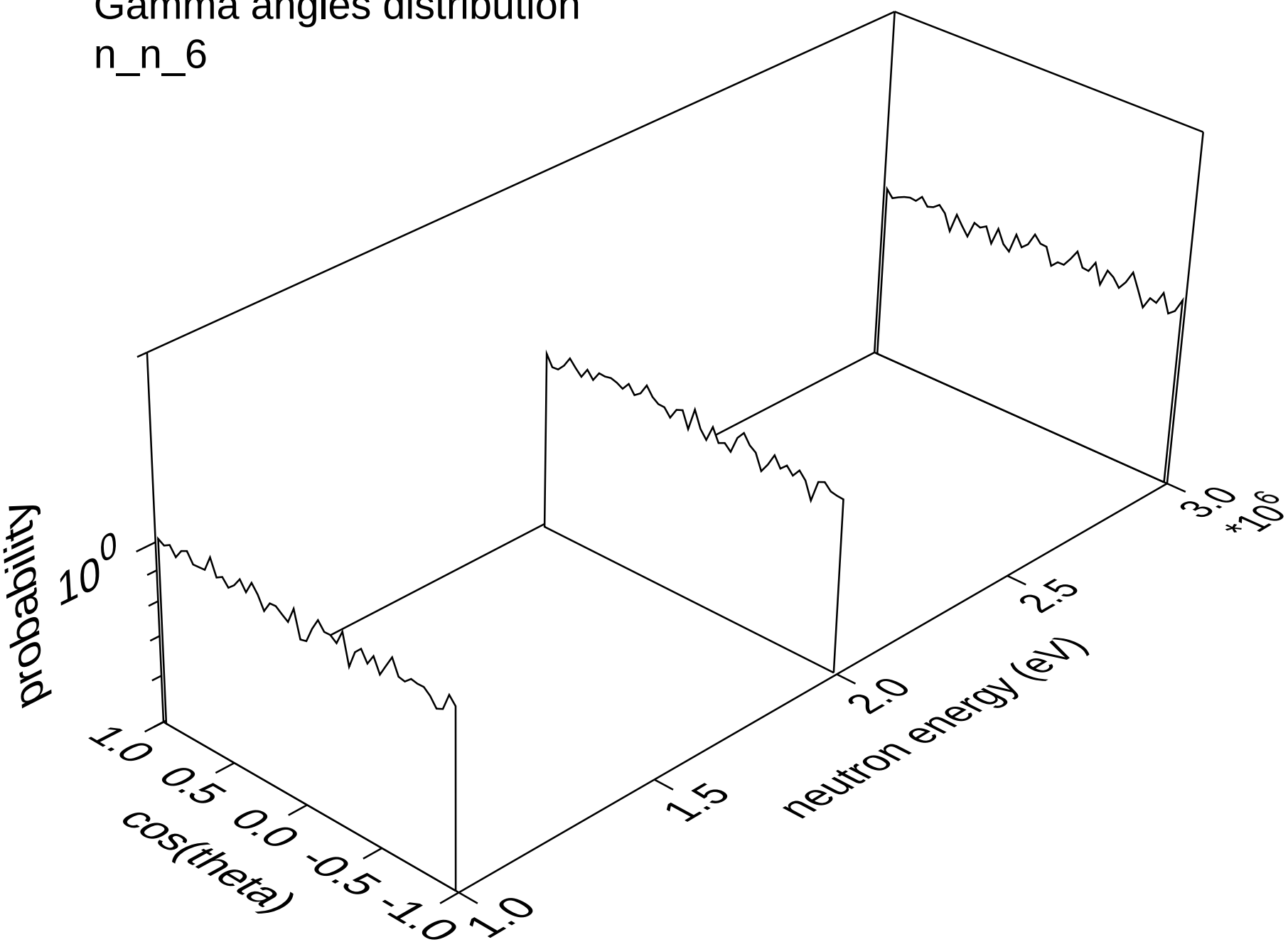

Gamma energy distribution
n_n_5
probability
100
50
0
gamma energy (MeV)
5
10
15
20
neutron energy (eV)
1.0
1.5
2.0
2.5
3.0
*10^6


Gamma angles distribution
n_n_5
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

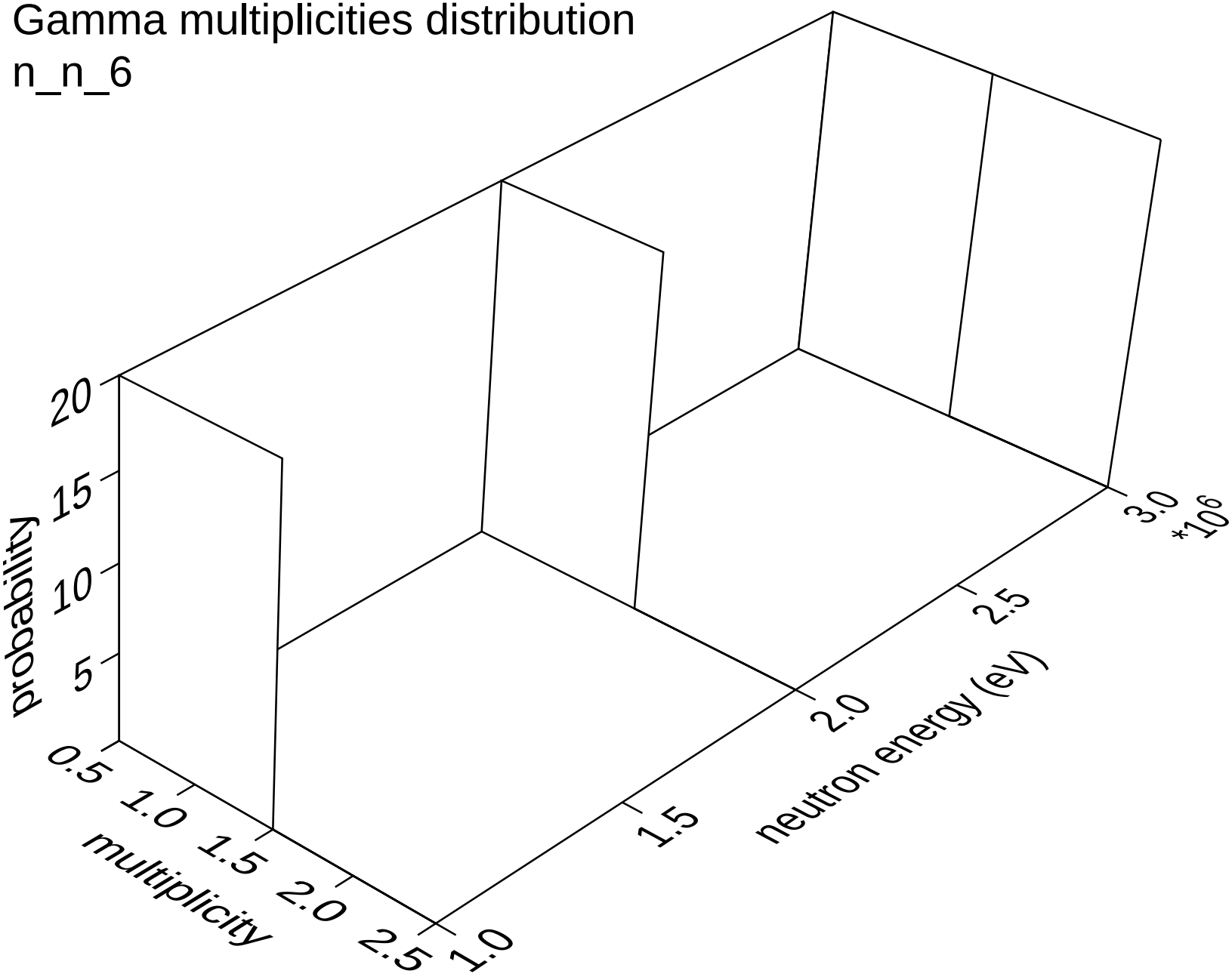
Gamma multiplicities distribution
n_n_5

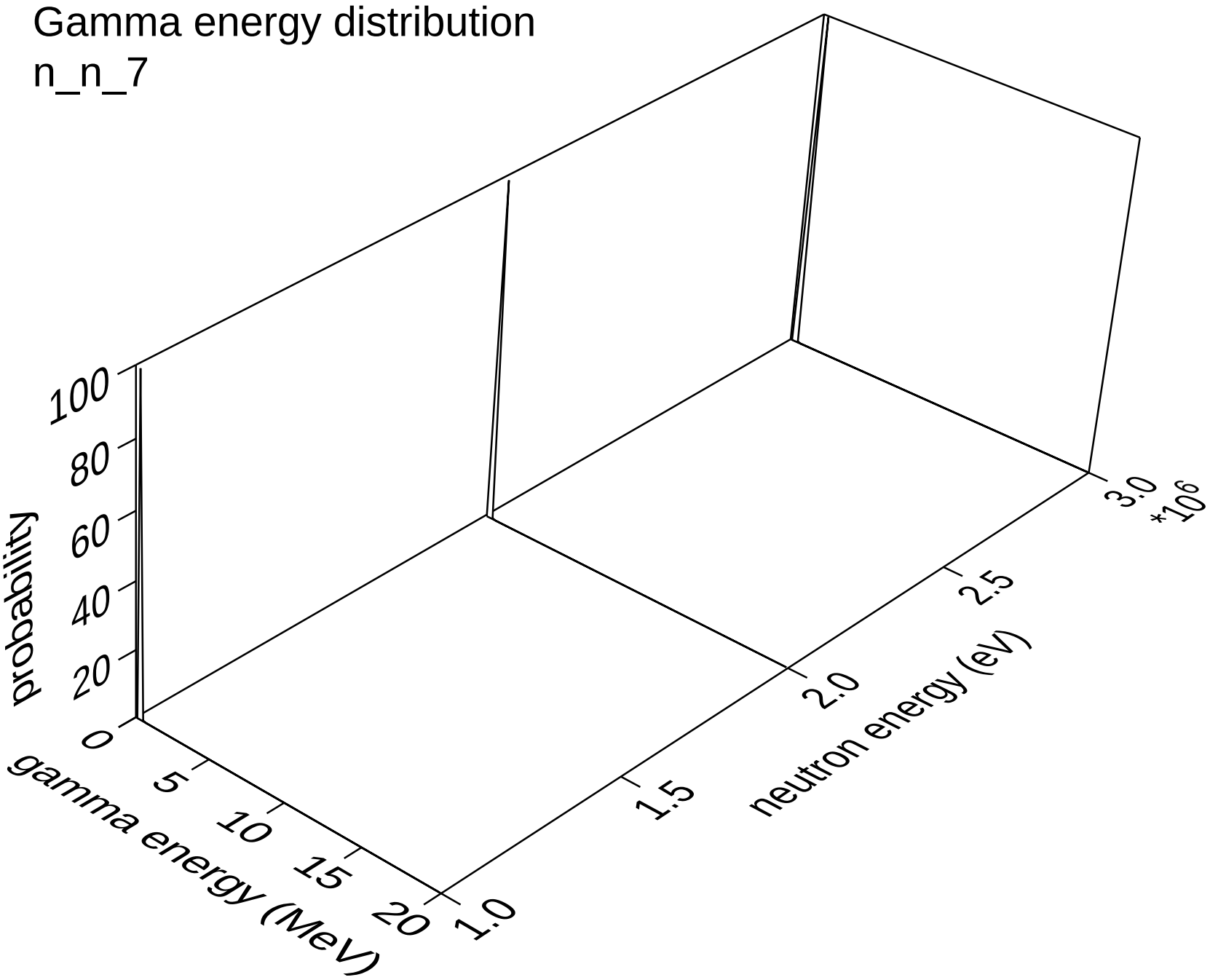


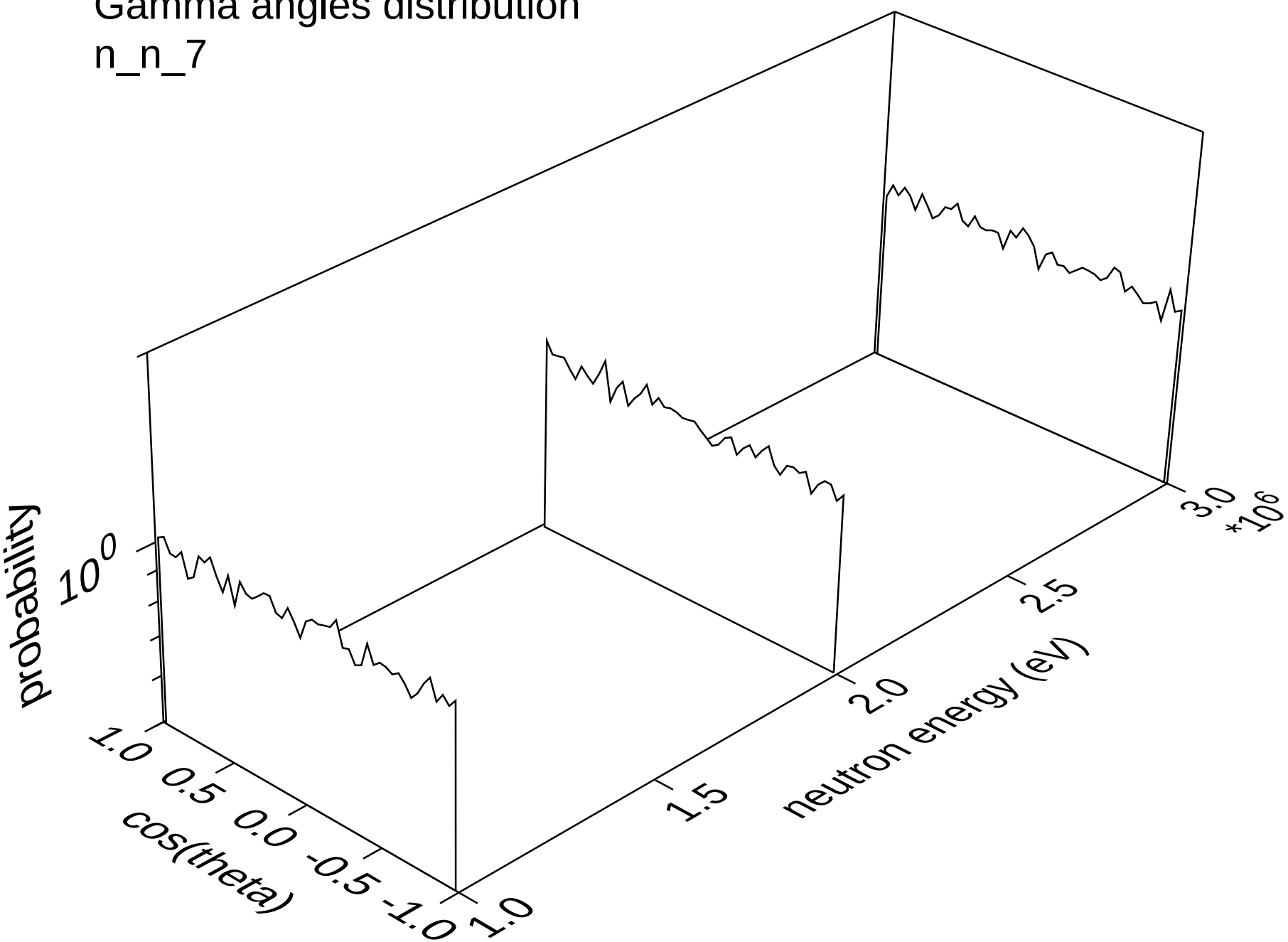

Gamma energy distribution
n_n_6
probability
100
50
0
gamma energy (MeV)
5
10
15
20
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)


Gamma angles distribution
n_n_6
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

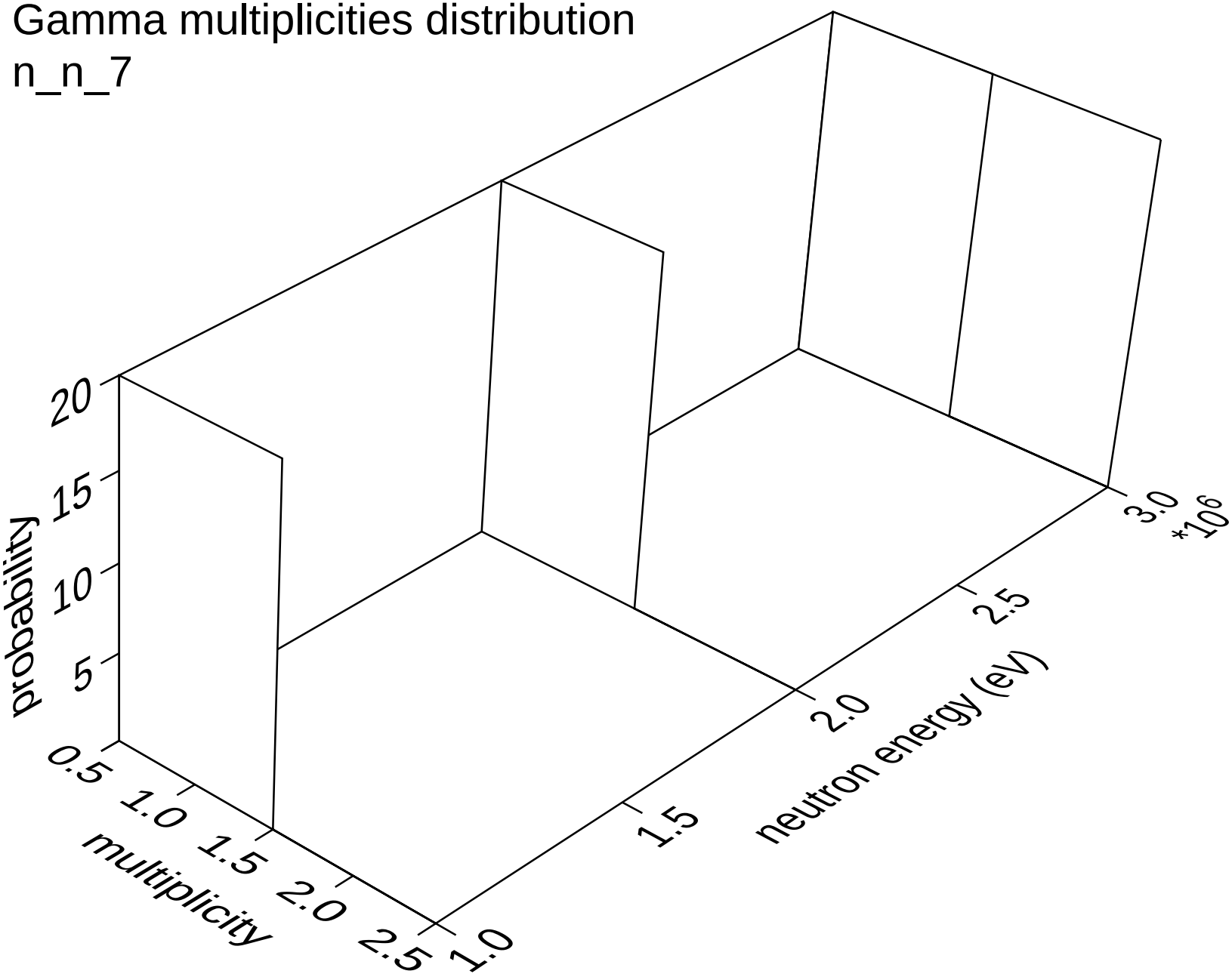
Gamma multiplicities distribution
n_n_6

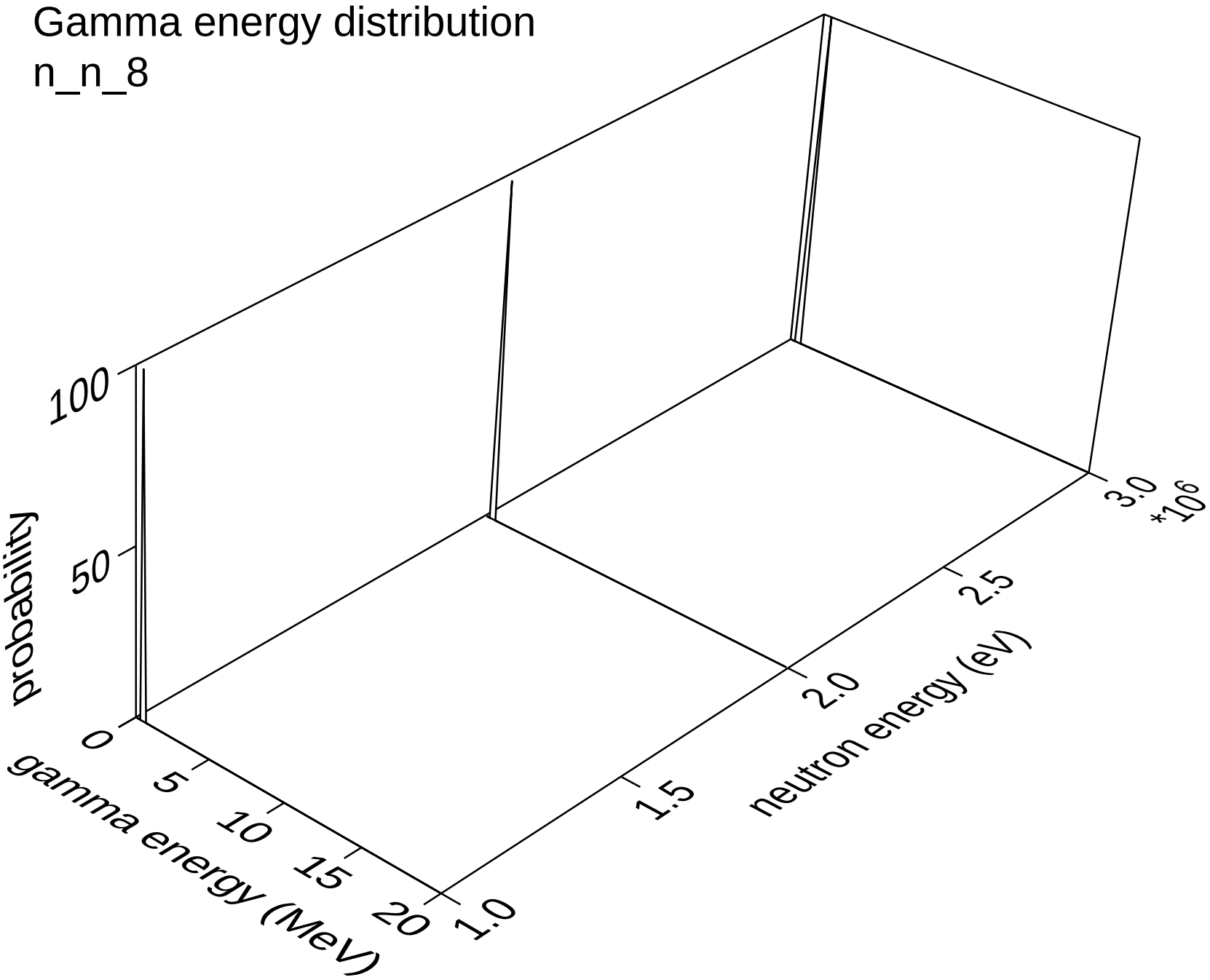


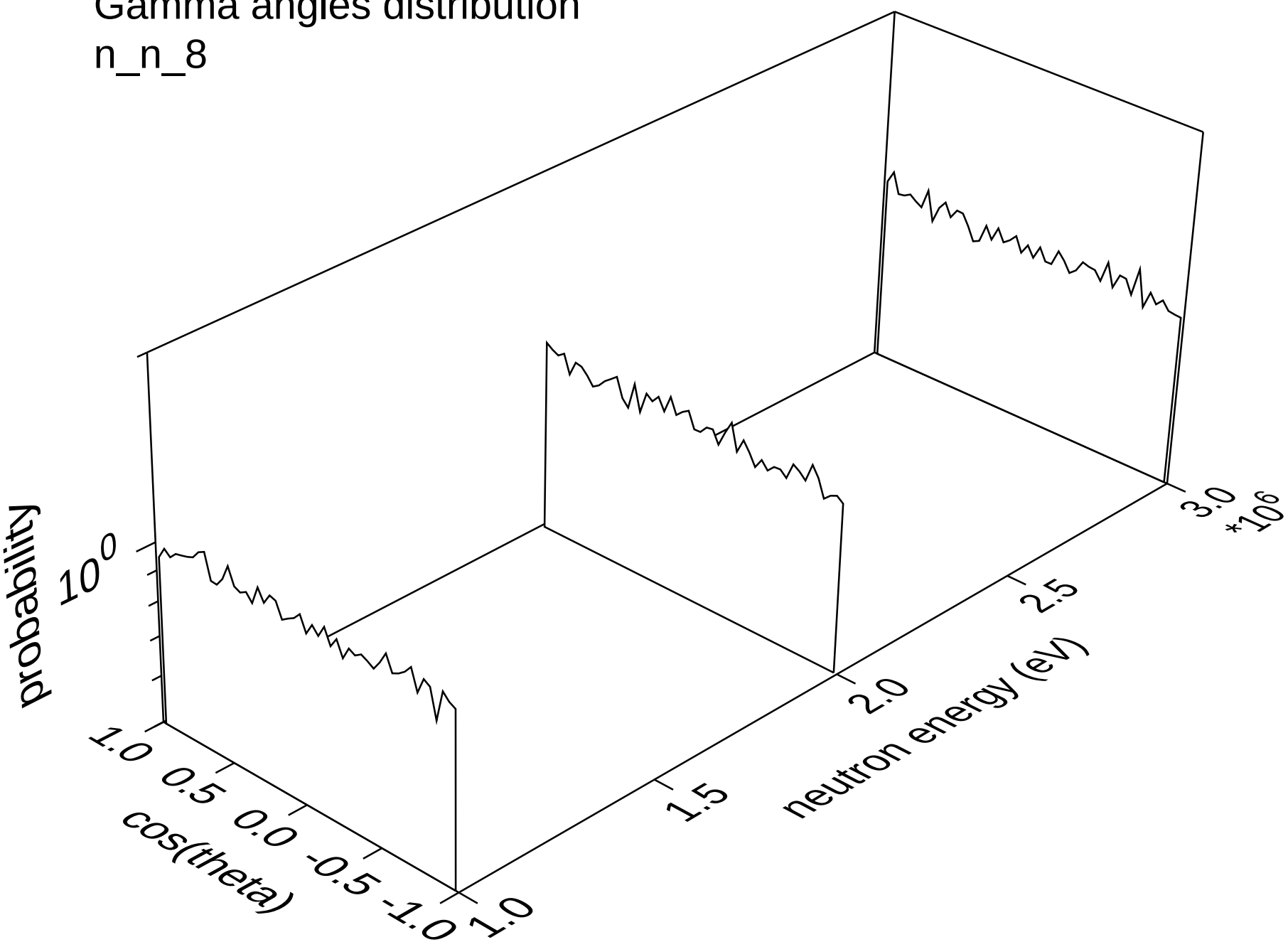

Gamma energy distribution
n_n_7
probability
100
80
60
40
20
0
gamma energy (MeV)
5
10
15
20
neutron energy (eV)
1.0
1.5
2.0
2.5
3.0
*10^6


Gamma angles distribution
n_n_7
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

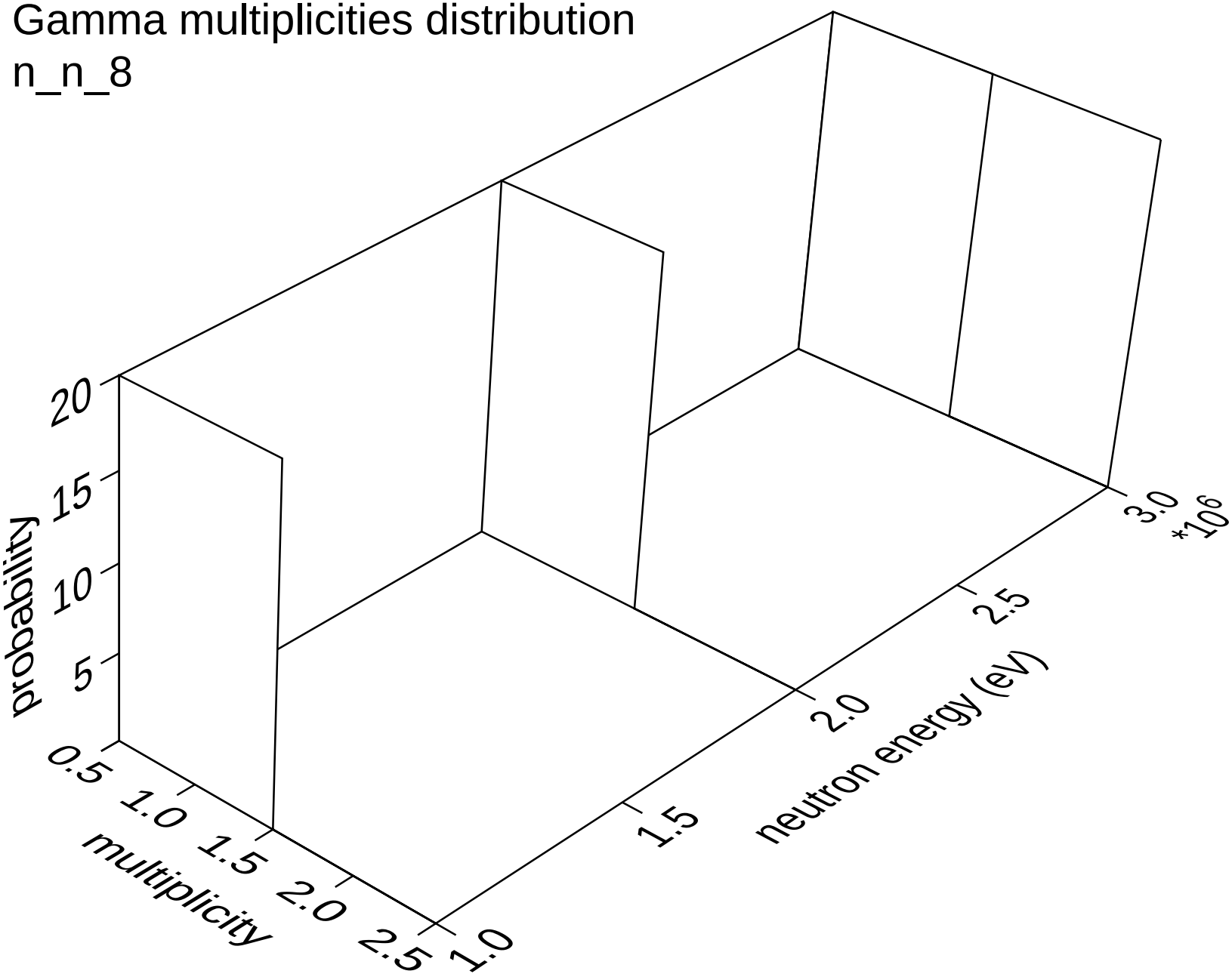
Gamma multiplicities distribution
n_n_7

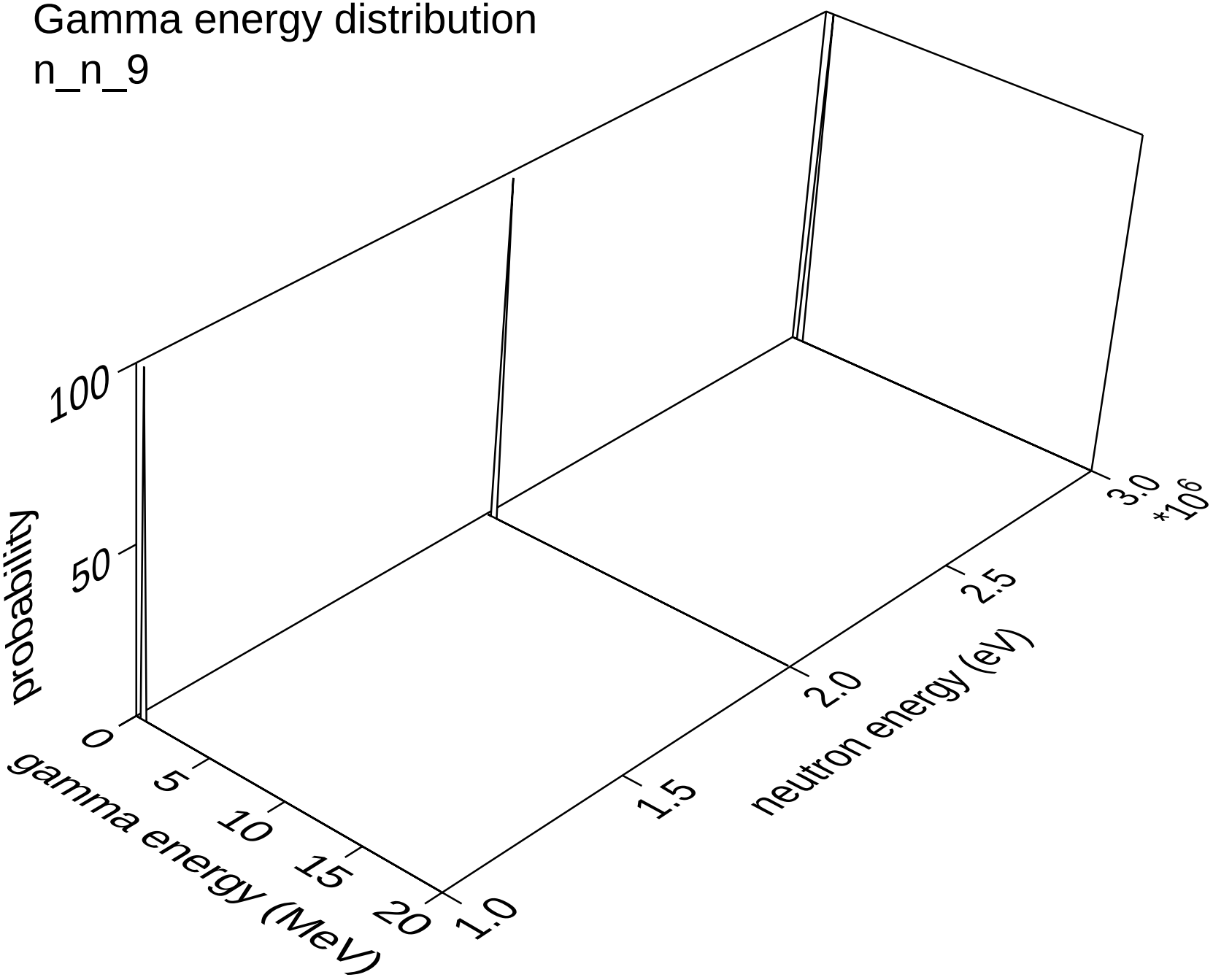


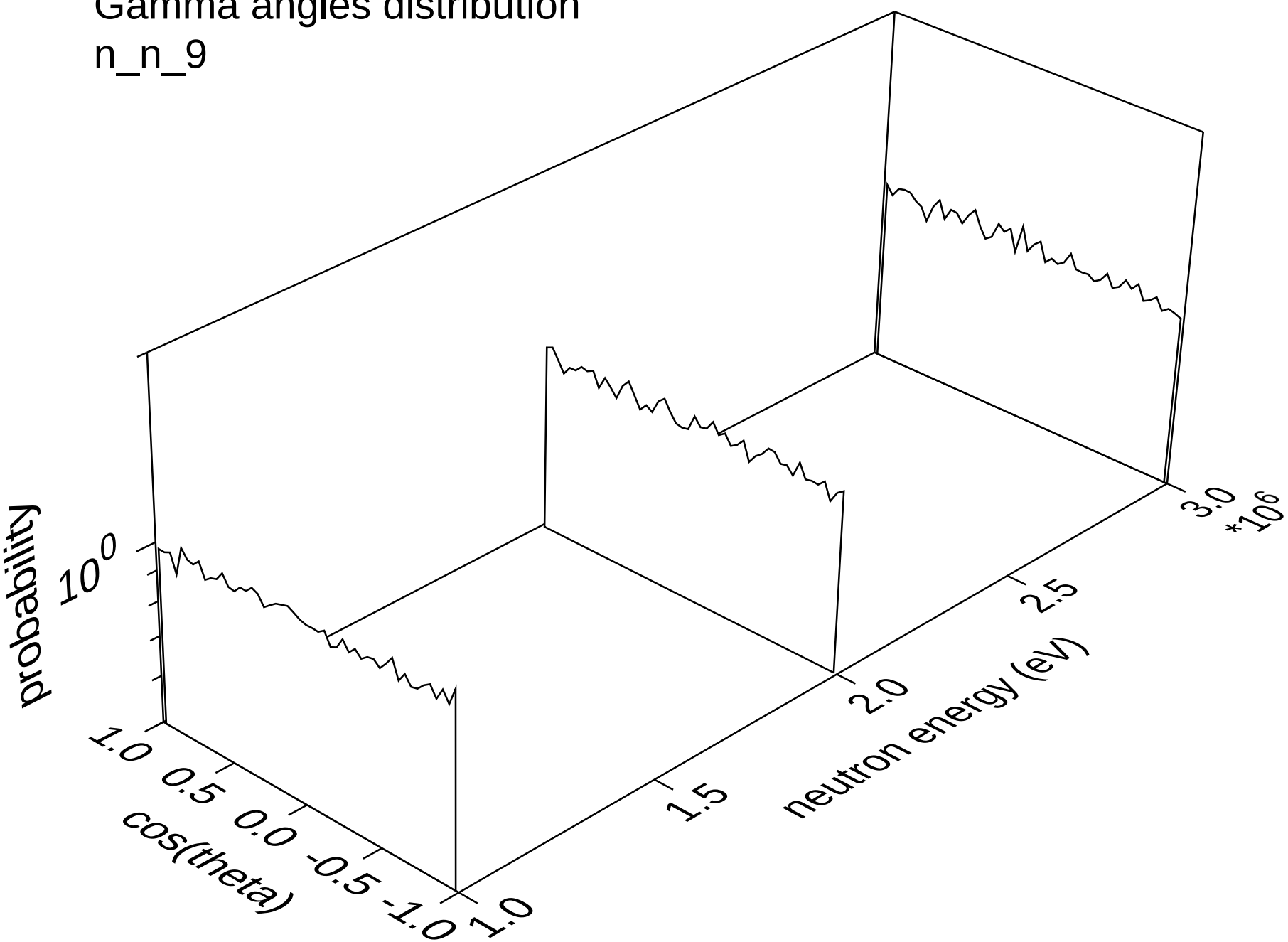
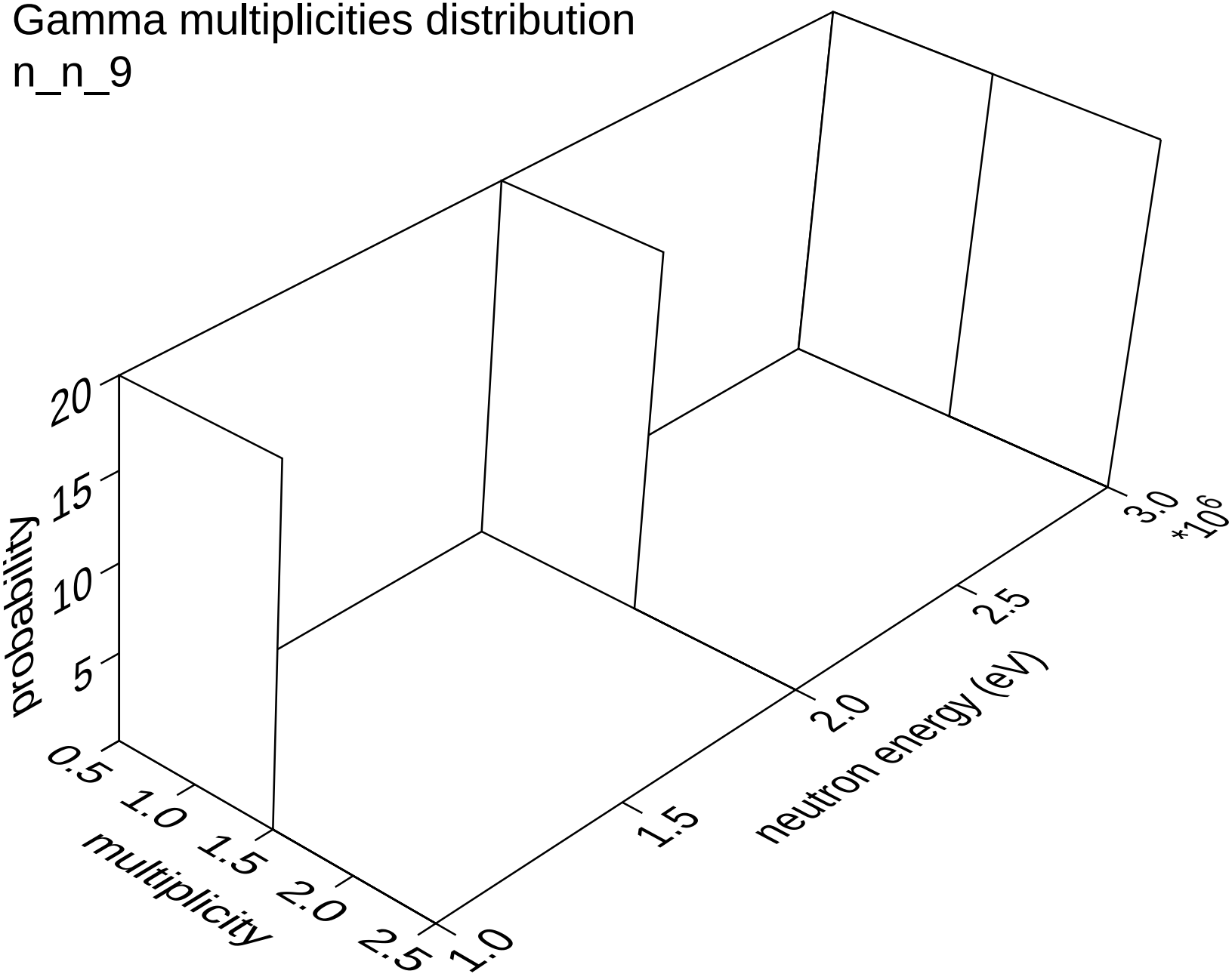

Gamma energy distribution
n_n_8
probability
100
50
0
gamma energy (MeV)
0
5
10
15
20
neutron energy (eV)
1.0
1.5
2.0
2.5
3.0
*10^6


Gamma angles distribution
n_n_8
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

Gamma multiplicities distribution
n_n_8




Gamma energy distribution
n_n_9
probability
100
50
0
gamma energy (MeV)
5
10
15
20
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)


Gamma angles distribution
n_n_9
probability
10^0
1.0
0.5
0.0
-0.5
-1.0
cos(theta)
1.0
1.5
2.0
2.5
3.0
*10^6
neutron energy (eV)

Gamma multiplicities distribution
n_n_9